

**Volume 2, Issue 11, 2024**

**Print ISSN: 2959-992X  
Online ISSN: 2959-9938**

# TRENDS IN SOCIAL SCIENCES AND HUMANITIES RESEARCH



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# **Trends in Social Sciences and Humanities Research**

**Volume 2, Issue 11, 2024**



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**Print ISSN: 2959-992X Online ISSN: 2959-9938**

**Email: [info@upubscience.com](mailto:info@upubscience.com)**

**Website: <http://www.upubscience.com/>**

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# SUGAR-FREE LOVE IN THE CONTEXT OF MEDIATED EXISTENCE: AN ANALYSIS OF THE MEDIA FACTORS BEHIND THE FORMATION OF CRUSH-BASED ROMANTIC IDEALS

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**Abstract:** In the context of China's declining population growth, the accelerating trends of lower birth rates and delayed marriages, the transformation of information dissemination and social interaction modes brought about by mediated existence has reshaped the public's concept of love. On social media platforms, crush-style love has garnered significant attention and intense discussion among young people. This instant emotional experience has become an electronic substitute for real romantic relationships, fulfilling individuals' romantic fantasies without requiring significant effort or exposing them to risk. The characteristics of crush-based love are frequency, one-sidedness, ephemerality, and illusion, typically based on specific contexts and idealized personas. Its emergence and popularity are fundamentally due to the acceleration of time and the erosion of patience, the flow of emotions and absence of genuine presence, and the alienation of values and the raising of emotional thresholds brought about by mediated existence.

**Keywords:** Sugar-free love; Time-space compression; Emotional flow

## 1 PHENOMENON: EMOTIONAL ILLUSIONS IN CYBERSPACE AND THE DECLINE OF REAL-WORLD SOCIAL INTERACTIONS

For Generation Z, love is no longer tied to labels such as "forever" or "eternity." The term *crush*, which has been widely circulated on various social media platforms, embodies a new understanding and longing for love among young people. As of now, the Douban group "I met a crush today" has nearly 180,000 members, and an increasing number of young people are spontaneously sharing their past or present *crush* experiences on media platforms. People have playfully referred to *crush* as "sugar-free love," likening it to sugar substitutes in high-sugar, low-calorie foods. It fulfills the individual's romantic fantasies and emotional needs while avoiding the expenditure of effort or the risk of harm. These emotional experiences are often expressed through a combination of text, images, and music, blending romance, ambiguity, and intense emotions. This combination effectively stirs the viewer's emotions, encouraging the viral spread of the content. The spontaneous creation and dissemination of such content by various individuals have resulted in the formation of a serene and warm emotional illusion in cyberspace.

As mediated existence becomes the norm, the modes and possibilities of human connection grow exponentially. Interpersonal attraction and social interactions have become effortless, with distance, race, and class no longer obstacles to human connections. Mediated existence and mediated communication have removed the difficulties of connection, making communication smoother than ever. However, this ease has also opened Pandora's box. The convenience of interpersonal communication has led to a devaluation of its quality, while the pursuit of communication efficiency has caused people to lose the ability to engage in deeper conversations. In this experience economy, people's expectations of love have been reduced to fleeting experiences and pleasure, rather than lasting commitment and mutual companionship. According to the Ministry of Civil Affairs' "2021 Statistical Bulletin on the Development of Civil Affairs" official data, 7.643 million marriages were registered in 2021, a decrease of 6.1% compared to the previous year. The marriage rate was 5.4%, marking a 0.4 percentage-point drop, the lowest in 36 years. Moreover, in 2022, China's natural population growth rate was -0.60%, a decrease of 0.94 percentage points from the previous year. The phenomena of late marriage, delayed childbirth, and the refusal of marriage and childbearing are closely tied to a significant distortion in the romantic views of the younger generation, shaped by changes in information dissemination and social interaction patterns. Therefore, it is of great practical significance to study the impact of media on the romantic views of contemporary youth.

## 2 LITERATURE REVIEW AND CONCEPTUAL CLARIFICATION

### 2.1 Types of Love

As the highest form of interpersonal attraction, love is an ancient and timeless topic. In *The Symposium*, Plato recorded a myth about the origins of love: it is said that in ancient times, human beings were very different in terms of gender and appearance. Fearing their power, Zeus split humans in half with a mighty axe, and ever since, people have spent their lives searching for their "other half." [1] This romantic description expresses the idea that love is the impulse to return to a state of wholeness. Scholars throughout history have provided various interpretations of love, and in terms of

its typology, the following perspectives are most common:

The Theory of the Three Primary Colors of Love. [2]Canadian sociologist John Alan Lee, using the card sorting method to analyze Western literature and the emotional experiences of his interviewees, proposed the theory of the three primary colors of love. His core idea is that love has three main styles, akin to primary colors: *Eros* (passionate love), characterized by intense emotional experiences; *Ludus* (playful love), casual and game-like in nature; and *Storge* (friendship-based love), where affection grows over time through mutual understanding. The combinations of these three primary love types form secondary forms of love: Passion and playfulness create *possessive love*; Passion and friendship create *altruistic love*; Playfulness and friendship form *realistic love*. The style of love is not fixed, but rather represents a relationship that can transform. Different relationships evoke different forms of love, and even for a specific individual, love may change as circumstances or time evolve.

The Cluster Theory of Love. [3]Psychologist Davis argues that love incorporates eight key elements of friendship (joy, mutual support, respect, freedom, acceptance, trust, understanding, and deep emotional connection) along with two specific clusters: *passion* and *care*. The passion cluster includes "infatuation with the other," "sexual desire," and "exclusivity," while the care cluster contains "support for the other" and "maximal sacrifice." Therefore, Davis believes that love is a special form of friendship, but with a deeper emotional intensity in its shared elements compared to friendship.

The Triangular Theory of Love. [4]Sternberg metaphorically depicts the three components of human love—*passion*, *intimacy*, and *commitment*—as the three corners of a triangle. Passion refers to the awakening source of intense emotional experiences, typically sexual desire or other strong emotional needs. Intimacy encompasses elements such as acceptance, understanding, support, and sharing. Commitment represents the investment to maintain love. The combination of these three components forms eight different types of love: *Non-love* (absence of all three), *Liking* (intimacy only), *Infatuated love* (passion only), *Empty love* (commitment only), *Romantic love* (intimacy and passion), *Companionate love* (intimacy and commitment), *Fatuous love* (passion and commitment), and *Consummate love* (intimacy, passion, and commitment).

The above studies approach the classification of love from different angles, yet they all convey a similar view: love should simultaneously encompass intense emotional experiences (passion) and relatively mild, enduring care and understanding—both are indispensable.

## 2.2 Mediated Existence and Crush

Mediated existence refers to a way of living centered around media. As early as the 1980s, scholar Kent Asp introduced the concept of "political mediation." [5]With the increasing importance of media in human social life, research on mediation expanded into broader social fields. Some scholars argue that mediation is the extension of media effects to macro social consequences, with its essence lying in understanding the complex social outcomes caused by media through this concept. [6]Mediated existence not only refers to the intrusion of media into daily life, but also describes, from a more macro perspective, the mutual influence of social processes and media technology. Media extends human bodies and reorganizes social relationships and practices, presenting a "super-subjective" nature that transcends the traditional instrumental role of media. The advent of mediated existence has disrupted traditional concepts of social time and space, altering the ways in which information is disseminated in interpersonal communication. The media timeline becomes fragmented, the boundaries between real and virtual spaces blur and interpenetrate, and user behavior is digitized. [7]As described in materialist philosophy: matter is primary, consciousness is secondary; matter determines consciousness, and consciousness is a product of the development of the material world. Changes in the material world drive changes in public social cognition and self-awareness, and the meaning of love also bears the marks of the times.

Crush is a term that has recently been widely discussed and circulated on social media platforms. Its Chinese definition has two interpretations: as a verb, it can mean "to crush" or "to squeeze"; as a noun, it refers to "a brief, intense infatuation." In the context of social media, people often use expressions like "I had a crush on him," meaning they briefly, intensely, and shyly liked him. This expression emphasizes the emotional experience of love while neglecting or downplaying the outcome of the relationship. Compared to true love, crush lacks the emotional element of "sustained care," and is often viewed as a transient emotional experience, characterized by the following traits:

First, frequent emotional stimulation, usually based on a specific scene. With the help of filters and digital beautification technologies, media platforms have become a "symbolic reality" full of beautiful illusions, where body image becomes a symbol of pleasure and desire. Audiences constantly switch between different scenes, which are often constructed with specific elements and tags that can quickly evoke emotional experiences in viewers, triggering admiration and infatuation. A popular internet saying aligns with this characteristic: "This is an era where love comes quickly; on short video platforms, you can fall in love with hundreds of people in a minute."

Second, the one-sided and ephemeral nature of the emotion. A crush does not emphasize emotional interaction between the subject and the object of their affection, focusing instead on the subject's own emotional experience, which is why it is one-sided. When a person experiences admiration or attraction to someone in a specific time or scene, they can be described as having a crush. Furthermore, the one-sided nature and scene-based characteristics of a crush make it difficult to maintain over time. It usually fades quickly once the emotional triggers (such as the scene, atmosphere, or persona) disappear.

Third, the illusory nature of the emotional experience. Media technology has made performance a regular part of daily life, allowing people to easily take on different roles in different contexts. A crush usually corresponds to an idealized



virtual persona that has been carefully curated, rather than a real, three-dimensional individual. Therefore, it is essentially a projection of the subject's own aesthetic values onto a specific object, and carries a strong element of emotional virtuality. Although this emotional illusion can satisfy an individual's romantic fantasies, it may influence the subject's normal emotional needs.

### 3 THE IMPACT OF MEDIATED EXISTENCE ON THE LOVE CONCEPTS OF YOUNG PEOPLE

Intelligent terminals' popularization not only means the extension of electronic components to the human body, but also means the co-opting of social relationships by mediated network systems. As more survival information is incorporated into the mediated network, the inherent communication structure collapses, and the socio-spatial conditions on which humans rely for survival are reconstructed. David Harvey, in his work *The Condition of Postmodernity*, accurately defines the characteristics of modern society. That is, the time-space we live in is experiencing a collapse. "The history of capitalism is characterized by an acceleration of the pace of life while overcoming various spatial obstacles, such that the world sometimes seems inherently to collapse towards us." [8] In the mediated world, time is in constant flux, space flows freely, and diverse values and traditional ideologies coexist in tension. For the contemporary young generation, information transmission, social interactions, and relationship construction are all in a state of subversion, and their concepts of love will inevitably change in the blending of the real and the virtual.

#### 3.1 Accelerated Time: The Shrinkage of Social Interactions and the Deprivation of Patience

Communication technology has helped humanity overcome the barriers of time and space, propelling society into a rhythm of accelerated flow. Heidegger once described this in a lecture: "The budding and growth of plants, which were once completely hidden within the cycle of seasons, can now be shown in a minute through film. Film reveals the distant ruins of the most ancient cultures, as though they are right in today's streets. In the shortest time, humanity travels the longest distances. By casting the greatest distances behind, humanity brings everything before itself with the smallest possible distance." [9] Here, we can vaguely glimpse two characteristics of mediated time: compression and the ability to weave time freely, while the construction of one's concept of love is often inseparable from temporality.

The mediated time in modern society has been compressed and accelerated, becoming a high-value and scarce resource. The competition for time extends across all areas of society, creating a massive butterfly effect. On one hand, we see how mediated existence has brought about a transformation in social production practices, making fragmented browsing, real-time connection and feedback, and multitasking the norm. [10] News reading, leisure, and education are no longer practices conducted within specific time slots but are instead fragmented into the gaps of time. Humans are able to process more information in a shorter period of time, creating more value. On the other hand, while media fill fragmented time, they also fragment all our complete moments. The convenience of synchronous communication makes idle time become empty talk, as people must constantly manage the work that might arise. Multitasking improves productivity, but as the value created in each unit of time increases, the time available for the individual self decreases. [11] The acceleration of mediated time acts like a conveyor belt, affecting all aspects of social life. According to the "time substitution theory," as more time is consumed by the internet, real-world interactions decrease. The time saved by media is reinvested into new information production and consumption, becoming digital labor for capital, while real-world social interaction shrinks due to lack of nourishment. A healthy romantic relationship requires both "passion" and "care," which inevitably need time, setting, energy, and interaction to sustain, all of which are elements that young people in an accelerated society often cannot afford. The rise and popularity of "crush"-style love can be seen as a collective release of the anxiety and tension caused by modern society's competitive pressures and survival stress.

The other characteristic of modern mediated time is its ability to be freely woven. In the world created by "mediated existence," time is uncertain and fluctuating. People live in the present, constantly shifting between past and future in the realm of screens and mediated time. Each person is required to rebuild their sense of time amidst the interplay of reality and the virtual world. However, media technologies and human behavior often flow in opposite directions, influencing one another. Platforms like social media and short videos give individuals the freedom to consume time, but they also deprive them of patience. At the same time, asynchronous communication makes it easier to manipulate one's image in mediated interactions, while frequent strong visual stimuli keep the subject's emotions in a state of constant stimulation. As the famous poet Mu Xin wrote, "In the past, daylight moved slowly, cars, horses, and mail were slow, and a lifetime was enough to love only one person." The relaxed romanticism of the past can no longer adapt to this fast-paced era.

#### 3.2 The Flowing Space: Emotional Fluidity and Absence of Presence

Time and space are crucial dimensions in media studies. In his work *The Bias of Communication*, Canadian scholar Harold Innis makes a clear distinction between the temporal and spatial biases of media communication and discusses their impact on social structures. [12] With the widespread use of smart devices, the "global village" that Marshall McLuhan once described has become a reality in modern society. The space in which we live has evolved from being fixed to fluid, from shared to private, and from real to virtual, exhibiting characteristics of liquidity and a fusion of the real and the virtual. As a result, social interactions and interpersonal emotions are quietly undergoing transformation. Digital technology has broken down the spatial barriers to information dissemination, turning space from a fixed geographical concept into a fluid "river." The internet, likened to a vessel, enables individuals to navigate between

multiple heterogeneous spaces, communities, and scenes over time. Each space contains its own set of unique elements, and people must perform specific roles within these spaces. These roles are always partial representations of the self—never the complete, authentic individual—merely a snapshot of the self at a given moment. In media platforms, due to the one-way nature of emotional engagement and the asynchronous nature of space and time, the establishment and dissolution of relationships have become easier. The rapid flow of information reduces emotions to a form of consumption, where people no longer need to focus on someone for an extended period but instead treat them as a fantasy emotional partner or a consumable companion. [13]In this one-sided emotional experience, the elements of "intimacy" and "commitment" in the triangle of love retreat into the background, leaving only "passion" to satisfy the individual's emotional needs.

On the other hand, as social media has become an indispensable part of daily life and social interactions, it is increasingly replacing offline social activities. More and more people choose to stay indoors, spending time with their smartphones or computers, making "the absence of presence" a growing phenomenon. Traditional romantic relationships, which typically require prolonged social interactions, are increasingly shifting from offline to online spaces due to the advent of media-centric living. While communication still occurs in virtual spaces, it lacks the immediacy, interactivity, and physical presence inherent in offline interactions, rendering it a distorted form of communication. "Presence" refers to the physical embodiment of the individual in the space where events occur. In the process of information exchange between subjects, language only carries part of the message, while the remaining communication is conveyed through body language and eye contact. Thus, as people increasingly rely on online interactions, real-life interpersonal communication gradually diminishes. Furthermore, in the pursuit of presenting a more perfect performance in the media space, individuals invest more effort into selecting and utilizing "props." Real-world spaces become the props for media performances and sharing, with individuals focusing on media content while ignoring the real world around them. [14]People seem to fall into a paradox: while information interactions become more frequent, media platform content increases, and virtual spaces become more lively, they increasingly feel isolated.

### 3.3 Alienated Value: Egoism and the Rising Threshold

Compared to the interactions in the real world, some social cues in mediated interactions are in a state of retreat, and the participants are unable to grasp the information exchange in an intuitive, three-dimensional manner. As a result, the importance of visual imagery naturally rises to an exceptional level. As Guy Debord describes, life itself is presented as a vast accumulation of spectacles, becoming a subordinate part of the visual symbol display.[15]The visual landscapes ubiquitous in the media cater to the aesthetic preferences of the public, while simultaneously numbing and controlling them. If, in a commodity society, things or reality are divided into use value and exchange value, then in a society of spectacles, they are divided into reality and image.[16]In this society where "images dominate everything," the worship of appearance and egoism are distorting and alienating the emotional values of the public.

McLuhan believed that media are extensions of human beings, and extension also means reduction. The mediated existence facilitates communication without obstacles, but it also causes its significance to quickly diminish. Due to the lack of social cues, interpersonal interactions on media platforms lack sufficient social presence.[17] This leads to behavior on media platforms often not being constrained by social norms. In other words, interpersonal communication in mediated spaces does not exhibit the characteristics of strong connections. In specific contexts, users remain "atomized" individuals. Atomization refers to the process in which social bonds change during periods of institutional transformation. It is primarily characterized by the weakening of connections between individuals, the alienation of individuals from the public sphere, and the resulting deterioration of fundamental social connections such as the distance between the individual and the state, as well as the breakdown of moral norms. The specific manifestations of social atomization include: (1) the alienation of interpersonal relationships, the loosening of social bonds, and the decline of primary social groups; (2) the alienation of individuals from the public world; (3) the failure of norms, and a decline in social moral standards. [18]Although the existence of media has, to some extent, enhanced the informational connections between individuals, it has never truly fulfilled its expected role as a bridge for emotional connection. In the relatively relaxed moral environment of cyberspace, young people, heavily influenced by utilitarian education, often scorn traditional moral values regarding love. Furthermore, diverse cultural values collide, compete, and merge in the information space. Many are influenced by the Western notions of romantic relationships, pursuing casual, free-spirited love, blindly chasing romantic ideals, while ignoring or unwilling to take on the essential responsibilities and obligations in intimate relationships. An increasing number of individuals have become refined egoists and individualists, harboring distrust towards others and unwilling to make sacrifices for others. The traditional "other-centered" sacrificial view of love has been discarded, shifting more toward a "self-centered" hedonistic view of relationships.

In addition, the consumption of specific information content has raised the psychological threshold for love among young people. The cultivation theory proposed by American communication scholar George Gerbner suggests that the "symbolic reality" presented by mass media plays a significant role in shaping individuals' perceptions and understanding of the real world. On one hand, in the media platforms overwhelmed by information, the type of content that often wins the competition for the audience's limited attention is eye-catching negative information. As a timeless topic, stories about marriage and relationships have become the key to attracting traffic for the media. The media sets the agenda for the public, sparking widespread discussion. Under the deliberate guidance of certain negative self-media,

the platform often presents content like breakups, divorces, infidelity, and violence. These negative messages can quickly stir up a whirlpool of public opinion, promoting secondary dissemination. Over time, the constant exposure to negative information erodes people's confidence in healthy, intimate relationships, leading them to project their emotional needs onto the idealized and ephemeral notion of "crush" relationships.

On the other hand, the visual transformation of media dissemination means that much of the information now carries aesthetic content. Whether it's photos and short videos posted by influencers or the portrayal of handsome men and beautiful women in films and TV shows, all of this engages in aesthetic disciplining of the audience. People get lost in the pseudo-environment constructed by the media and begin to disregard real physical appearances in the world around them.

#### 4 CONCLUSION AND REFLECTION

This paper introduces the concept of "mediatization" into the practice of interpersonal attraction, aiming to explore the characteristics and formation reasons of the love concepts among young people from a media perspective. Media platforms provide a fluid, multi-value coexistence scenario. The combination of fragmented information consumption habits, asynchronous communication forms, fading social cues, and more relaxed social norms has fostered the emergence of "crush" as a love concept centered around emotional experience. Rather than saying that "crush" is a spontaneous love concept formed by contemporary young people that fits their traits, it is more accurate to view it as a product of changes in information dissemination and social interaction patterns. As a form of "sugar substitute," a crush may offer a brief, idealized love experience, but this experience is ultimately a projection of individual imagination onto a particular object. Although it can evoke intense emotional desires, it lacks the other foundational elements of love, thus cannot be sustained in the long term.

Therefore, when mediated interactions become a widespread social phenomenon, it is worth reflecting on how we can avoid the erosion of emotional meaning caused by fluidity. In his work *The Interaction Ritual Chain*, American sociologist Randall Collins argues that procedural activities expressing different meanings—what he refers to as interaction rituals—are the source of social dynamics. The image individuals present in society is formed through their interaction practices with others. Society, according to Collins, becomes a chain made up of different interaction rituals, and people rely on this chain to transition from one situation to another. From the perspective of interaction rituals, romantic relationships can be viewed as interactive behaviors between two parties. Similar to other interaction rituals, participants in a romantic relationship form a shared focal point of attention, experiencing each other's subtle bodily rhythms and emotions. Interaction rituals have the ability to evoke emotions in participants, and in turn, emotional responses can enhance the participants' sense of the ritual itself. From this, we can infer the process of romantic interaction rituals. When both participants in a romantic relationship focus on the same point of attention, emotional resonance drives the production and expression of interactive symbols.

The key to maintaining love lies in resonance and symbolic interaction. First, as described in the "intimacy" element of Sternberg's Triangular Theory of Love or the "friendship" element in the Theory of the Three Colors of Love, emotional maintenance requires frequent, regular interactions between the two participants. This not only represents a relative fixation of communication spaces or contexts, but also necessitates equivalent symbols capable of evoking resonance. Secondly, an essential aspect of interaction rituals is that the participants must establish boundaries with outsiders. From both an ethical and emotional perspective, love inherently possesses strong exclusivity. The frequent emotional stimuli on media platforms not only hinder the cultivation of romantic relationships, but also undermine their seriousness. Finally, the physical presence of bodies is another indispensable element in the ritual chain of interaction. While media extend our possibilities for communication, the mediated interactions still lack certain social cues, and thus fail to convey sufficient emotional energy, making it impossible for interpersonal communication to achieve true intimacy.

#### COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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# THE EMPLOYMENT WILLINGNESS OF COLLEGE STUDENTS TO RETURN HOME IN NORTHWEST CHINA

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**Abstract:** In the process of the continuous development of the times, college students returning home for employment has become a topic of great concern. Encouraging college students to return home for employment can promote rural revitalization and inject new impetus into rural development. This study focuses on the willingness of college students to return home for employment in Northwest China, and makes a statistical analysis of the results of the questionnaire. This paper sorts out the factors that affect college students' willingness to return home for employment, and puts forward suggestions for improvement from three aspects of the area, universities and college students.

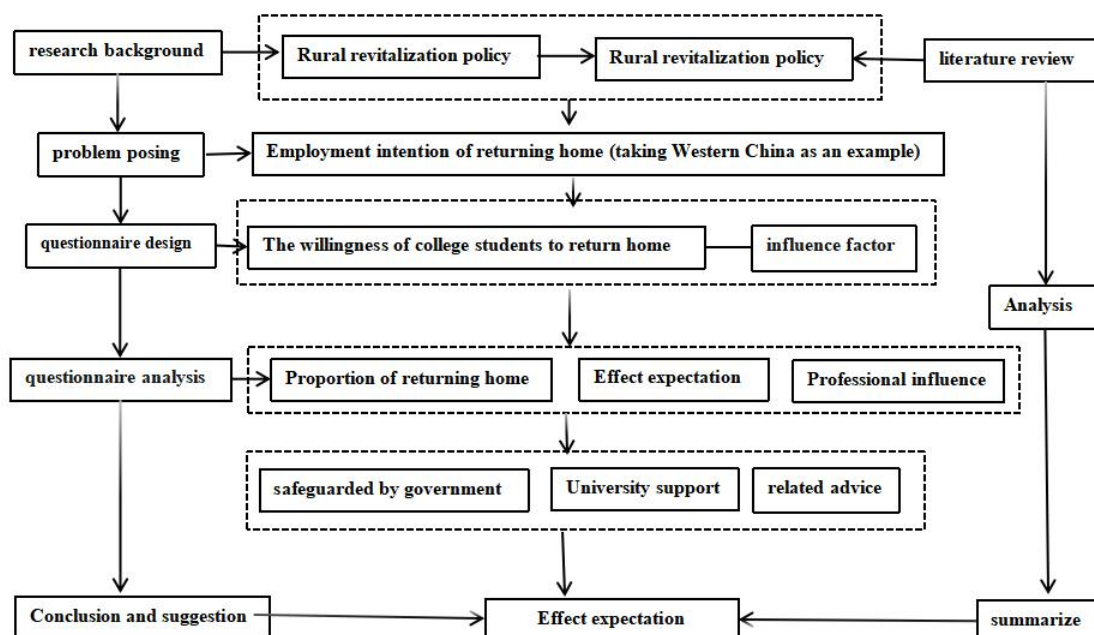
**Keywords:** College students returning home for employment; Northwest region; Rural revitalization and construction; Policy

## 1 INTRODUCTION

### 1.1 Research Background

With the development of urbanization, the area of agricultural arable land is decreasing, and the trend of rural population aging is increasing. It is also difficult for young people to return home for employment. Document No.1 of the Central Committee of the Communist of China was published in 2024, which put forward a "road map" to effectively promote the comprehensive revitalization of the countryside[1]. To promote Chinese-style modernization, we must persevere in consolidating the agricultural foundation and promoting comprehensive rural revitalization. In recent years, with the great attention of the national policy, more and more young people have the idea of returning home for employment[2]. However, some people choose to stay in big cities. In this regard, this group takes this opportunity to investigate the willingness of college students to return home for employment. And to provide an optimization plan for the national rural revitalization construction, to drive more young people back to their hometown, to help the development of their hometown.

### 1.2 Research Ideas (Figure 1)



## Figure 1 Research Idea Diagram

## 2 DESIGN AND IMPLEMENTATION OF INVESTIGATION PLAN

### 2.1 Investigation plan

#### 2.1.1 Purpose of the investigation

The overall purpose of this survey is to understand the reasons and situations for college students to choose to return home for employment after graduation[3]. As well as the attitudes and views of college students on returning home for employment. To explore their considerations in choosing the place of employment and their expectations and contributions to the development of their hometown. This survey is helpful for the area and relevant departments to formulate more targeted policies to promote the employment of college students and the economic development of their hometown. Ring. At the same time, it can also help college students better plan their career and find suitable employment opportunities. To realize the common development of individuals and their hometown.

#### 2.1.2 Subject of investigation

This survey is mainly aimed at undergraduates in colleges and universities in Northwest China, collecting relevant data and summarizing the reasons and situations of their returning home for employment. As well as attitudes and perceptions.

#### 2.1.3 Survey tool

##### (1) Document investigation method

Using a computer search, On various platforms, we have consulted a large number of relevant documents about the employment path of college students returning home, the policy of college students returning home, and the willingness of college students returning home. To conduct an analysis and determine the direction and purpose of this investigation.

##### (2) Network survey method

The questionnaire is designed on the questionnaire satellite to control the time for the respondents to fill in the questionnaire, and the questions they want to investigate are concentrated in a limited number of questions. Finally, the collected questionnaires are screened and sorted out according to the needs, and the irregular questionnaires are eliminated. To get the most realistic data.

## 3 DESIGN OF INVESTIGATION SCHEME

### 3.1 Investigation Methods

Survey method: sample survey

Survey methods: qualitative: copywriting survey, in-depth interviews; quantitative: network survey

Before the formal investigation, we should adopt the method of document investigation and in-depth interview to obtain relevant information and prepare for the subsequent investigation.

By using the method of document investigation, through manual retrieval and computer retrieval, Consult and collect relevant policies, regulations and academic research documents related to college students' returning home for employment and rural revitalization. Summarize and analyze the existing data, so as to determine the problems and directions of this survey.

After establishing the survey questions and directions, the purpose and reasons of college students returning home for employment are pre-investigated by using the in-depth interview method. According to the established research questions, the interview plan was drawn up, and 30 respondents were selected by convenience sampling to make an appointment for the survey. Interviews are conducted on the network platform (Wechat) or face-to-face. This paper investigates the motivation of college students for returning home for employment and the factors affecting their returning home for employment. It focuses on asking college students about their expectations of existing policies and regulations and where they hope to be satisfied, and making records. Finally, the results are discussed and analyzed, and attention is paid to them in the following.

Finally, the network survey is applied to the pre-survey and formal survey stages: the questionnaire is created on the questionnaire star platform, The pre-survey uses the method of convenient sampling to distribute to the network platforms such as the circle of friends. Through the data collected from the pre-survey, the problems existing in the questionnaire were analyzed, and the revised questionnaire was issued as a formal survey. In the formal survey, the sampling design was adopted, and the non-simple random sampling method was used to collect questionnaires through specialized survey agencies. The reliability and validity of the residual credible questionnaire were tested. Using SPSS and other tools to process the data, correlation analysis, contingency analysis, decision tree and other correlation analysis, the conclusion is drawn. Statistical charts, word cloud charts and other means are used to visualize the data.

### 3.2 Sampling Design

#### 3.2.1 Sample size

This survey uses a simple sampling method. In the survey, we collect data through Wechat questionnaires and offline interviews. A total of 160 online questionnaires were distributed and 123 valid questionnaires were recovered, with an effective rate of 77%. According to the formula

$$n = Z^2 \times p \times (1 - p) / d^2 \tag{1}$$

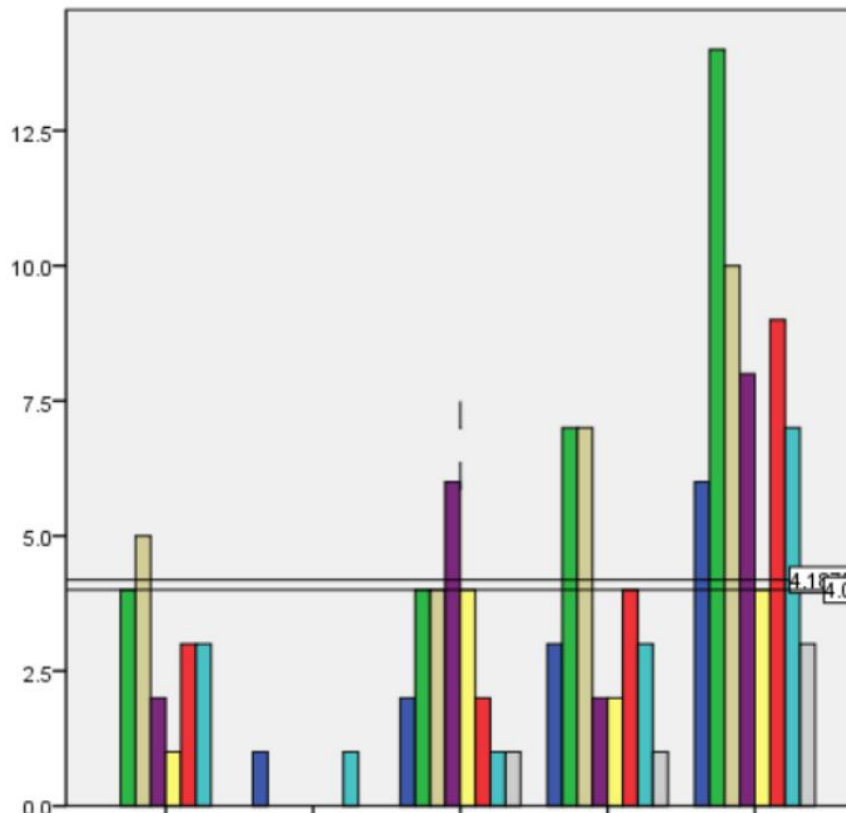
The calculation of sample size is based on 95% confidence level and 5% confidence level, and there is a certain bias in sample selection. The results are therefore not fully representative of the population as a whole.

**3.2.2 The influence of the majors of college students in Northwest China on their willingness to return home for employment**

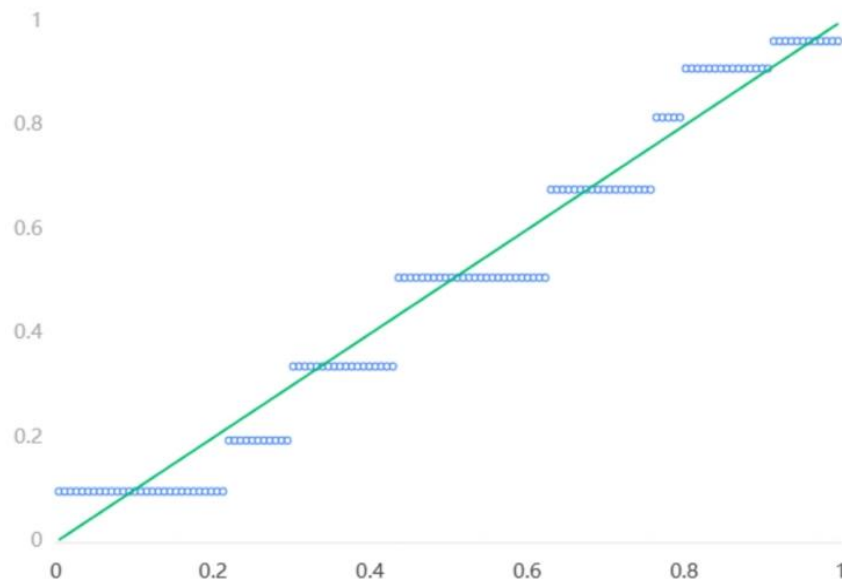
The influence of the majors of college students in Northwest China on their willingness to return home for employment is a topic of great concern. With the rapid development of China's economy and the gradual narrowing of the gap between urban and rural areas, more and more college students are facing the dilemma of choosing to stay in the city or return to their hometown for employment. Students' major is often one of the important factors affecting their choice.

First of all, the employment prospects and demand of different majors vary greatly, which directly affects the employment choice of college students. According to Figure 2, students majoring in economics and management are the most willing to return home, and students majoring in science and engineering are the second. Art students are willing to return home. College students majoring in art can better explore and utilize local cultural resources and integrate with the local environment. Injecting unique regional characteristics into the works of art can better promote the local culture and let people know the local history. At the same time, returning home for employment can reduce the cost of living and enjoy lower living pressure. They can concentrate more on creating and improving their artistic talents, and the market competition is smaller than that in big cities. It is easier to find opportunities to display and sell works. According to Figure 3, Fourteen of the 29 students majoring in economics and management are willing to return home, and 10 of the 26 students majoring in science and engineering are willing to return home. These majors are in greater demand in the employment market in rural areas or small cities, such as agriculture, environmental science and other majors. Therefore, such students are more willing to return home for employment and are more likely to find ideal job opportunities in their hometown. Therefore, it increases their willingness to return home for employment and makes it easier for them to find jobs.

To sum up, the influence of college students' major on their willingness to return home for employment in Northwest China is a complex and pluralistic issue. The area and schools should strengthen the employment guidance for college students to help them make more rational and self-interest choices. Only in this way can we better promote the economic development and the flow of talents in Northwest China.



**Figure 2** Influence of the Major on the Willingness to Return Home for Employment



**Figure 3** Observation Cumulative Probability and Normal Cumulative Probability

### 3.3 Data Analysis Method

#### 3.3.1 Research methods

The reliability and validity of the data were analyzed by SPSS analysis to verify the reliability and accuracy of the data. Using the descriptive analysis method, the overall descriptive analysis is carried out on the obtained data. Find out the willingness of college students to return home in the northwest region and the reasons why college students are unwilling to return home for employment. This paper analyzes the influencing factors and influencing mechanism of returning home for employment. It is used to explore the influence of other factors on the important variable of college students' willingness to return home, as well as the degree of influence. It uses the method of combining online and offline research, and uses grounded theory to conduct in-depth interviews and understanding of specific groups. In order to obtain more complete data information.

#### 3.3.2 Reliability and validity analysis (Table 1-2)

**Table 1** Cronbach's Alpha Coefficient Table

Cronbach's alpha coefficient	Normalized Cronbach's alpha coefficient	Number of items	Number of samples
0.716	0.674	18	100

**Table 2** Statistical Summary of Deleted Analysis Items

	Average value after removing item	Variance after removing term	The relevance of the deleted item to the population after the item was deleted	Cronbach's alpha coefficient after deletion of term
1. Your gender	125.32	2390.482	-0.008	0.718
2. Your age	125.03	2348.171	0.553	0.712
3 for your education.	125.29	2363.986	0.356	0.714
4、 your school's region (province)	108.4	1387.697	0.693	0.642
5. Your place of origin (province)	111.29	1859.562	0.533	0.672
6、 the region where the students come from	125.36	2398.455	-0.171	0.719
7. What is your major?	123.07	2296.429	0.428	0.706
8. Do you know about the policy of college students returning home to start their own businesses?	124.17	2375.233	0.084	0.717
9. Are you willing to return home for employment after graduation?	124.09	2363.275	0.326	0.714
10、 , assuming that your hometown is further developed, which of the following conditions can prompt you to change your mind and choose to return home for employment?	124.5	2421.364	-0.284	0.723
11. As a college student, what are your priorities when you return home for employment?	114.17	1870.87	0.613	0.663



12. What channels do you use to learn about the employment policy for college students returning home?	120.05	2262.21	0.279	0.707
13. Does the school provide a lot of guidance and consultation for returning home?	124.99	2355.828	0.277	0.714
14. What do you think are the factors that hinder college students from returning home for employment?	95.09	1212.265	0.727	0.647
15. What do you think are the reasons for college students to return home for employment?	117.61	2199.695	0.296	0.704
16. , what help do you think the area or schools can provide in promoting rural college students to return home for employment?	120.64	2208.334	0.488	0.696
17. , what kind of work would you prefer to do if you return home for employment?	124.4	2379.354	0.059	0.717
18. If you choose to return home for employment, what contribution do you expect to make to the construction of your hometown?	122.13	2327.549	0.21	0.712

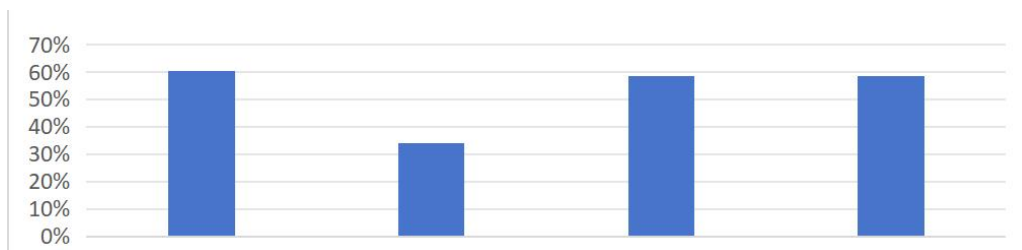
**3.3.3 The influence of information sources on the willingness of college students to return home in Northwest China**

According to Figure 4, Official information channels: Information released by the area or official agencies may have an impact on the decision-making of college students. If the official information emphasizes the opportunities and policy support for returning home, it may increase the willingness of college students to return home.

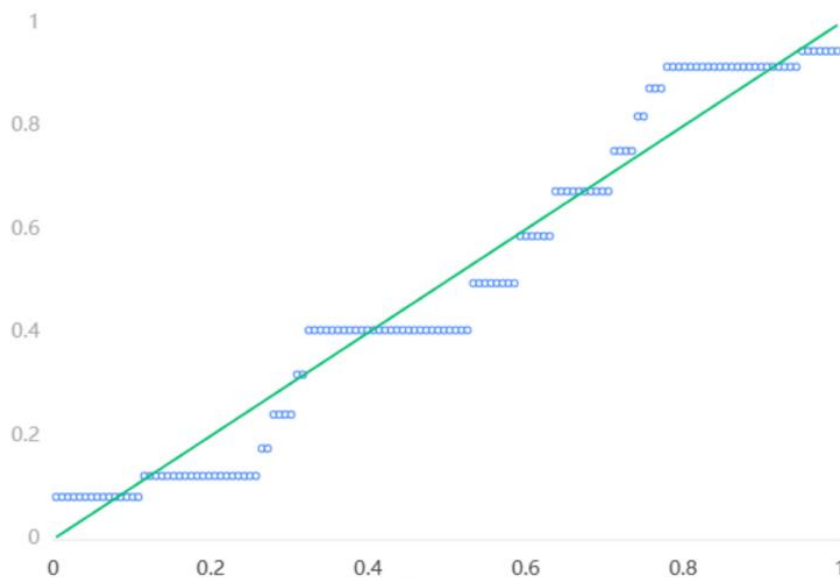
Social Media and Networking: Information disseminated through channels such as social media platforms, online news and forums can also influence the perceptions of college students. If the homecoming experience and development opportunities presented on the Internet are positive and noticeable, it may encourage more people to choose to return home.

Family and friends: The views and experiences of family and friends play a crucial role in college students' decision-making. If the majority of family and friends support returning home, it may strengthen the individual's willingness to return home.

Schools and educational institutions: Schools may provide information on employment and development opportunities that also affect student choice. If the school encourages students to return home for development, it may affect their willingness to return home (Table 5).



**Figure 4** Information Source of Homecoming Employment Policy



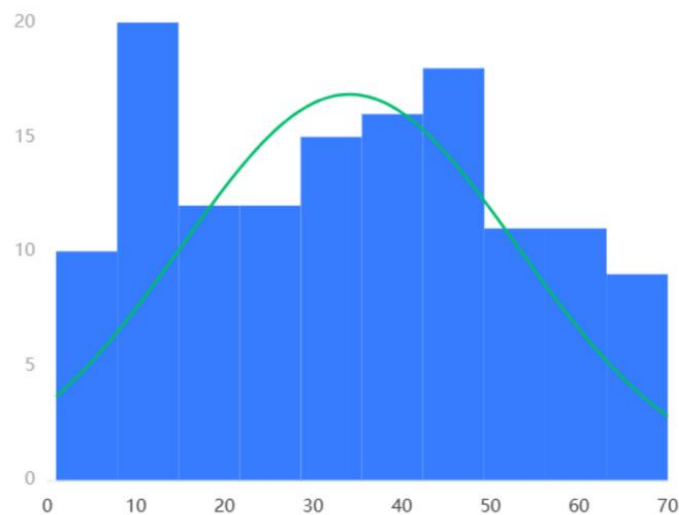
**Figure 5** Fitting of Observation Cumulative Probability and Normal Cumulative Probability

### 3.3.4 The impact of area preferential policies on the willingness of college students to return home in Northwest China

With the continuous development of China's economy, the employment situation in the northwest region has gradually improved. However, the willingness of college students to return home for employment is relatively low. In order to solve this problem, the area has issued a series of preferential welfare policies aimed at promoting college students to return home for employment. We have also conducted a survey on this issue. At the same time, in a total of 123 questionnaires, 68 students said that if the area introduced more preferential welfare policies, college students will be more willing to return home.

### 3.3.5 The influence of environment on the willingness of college students to return home in Northwest China

The influence of environment on the willingness of college students to return home in Northwest China is multifaceted. The environment of economic development will directly affect the employment opportunities and development prospects of college students. At the same time, educational resources and scientific research environment will also have an impact on college students' willingness to stay. In addition, the social environment and cultural atmosphere are also important factors affecting the willingness of college students to return home. In order to draw practical conclusions based on the actual situation, this paper publishes a questionnaire survey. To explore the impact of environment on the willingness of college students to return home in Northwest China. Among the returned questionnaires, 123 were from Northwest China (Table 6).



**Figure 6** Normality Test Histogram of Factors That Impede College Students from Returning Home for Employment

The figure above shows the normality test histogram of the factors that the respondents think hinder college students from returning home for employment. If the normal chart is basically bell-shaped (high in the middle and low at both ends), it means that the data is not absolutely normal. But is basically acceptable as a normal distribution. It can be seen that the influence of environment on the willingness of college students to return home in Northwest China is comprehensive. Economic development, educational resources, scientific research environment, social culture and other aspects will affect college students' homecoming choice to a certain extent.

## 4 THE INFLUENCE OF CAREER PLANNING ON THE WILLINGNESS OF RETURNING HOME OF COLLEGE STUDENTS IN NORTHWEST CHINA

### 4.1 Employment Opportunities (Homecoming Jobs)

College students in Northwest China pay more attention to employment opportunities and their development, and good opportunities can make college students more willing to return home for employment. According to Figure 7 of REF \_Ref22068 ¥ H, 30.9% of college students are willing to work in township enterprises and institutions. 27.6% of college students are willing to work in area organs.

From this we can see that college students have enough knowledge reserves and abilities, and enterprises should pay attention to their own development[4]. Develop new technologies, carry out industrial transformation, promote the development of enterprises, and then improve the visibility of enterprises. Provide more jobs for college students to find jobs and increase the employment rate, thus forming a virtuous circle. So as to promote the development of the northwest region.

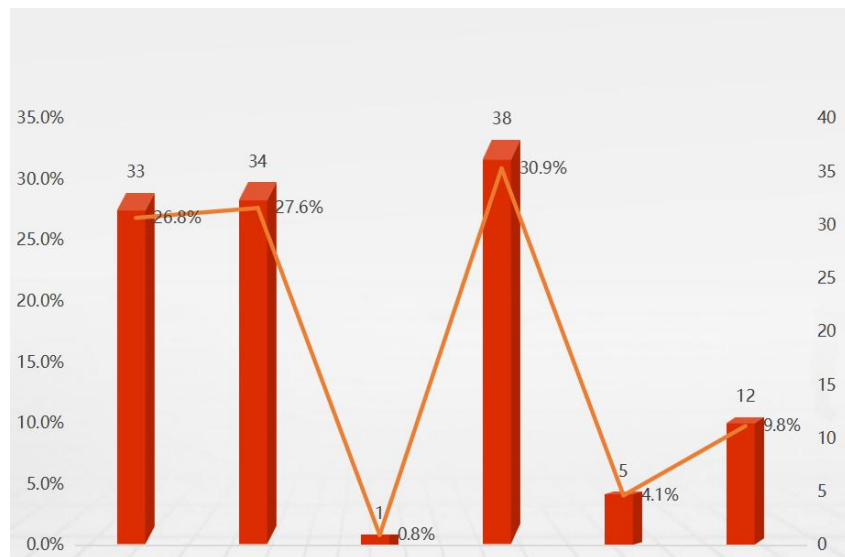


Figure 7 Statistics of College Students Returning Home More Willing to Work

#### 4.2 Future Development Direction

College students returning home in the northwest region have broad development space and potential. In the future, with the sustained economic development and policy support in Northwest China, more college students will be attracted to return home for employment. As can be seen, college students believe that the uncertainty of future development direction is the main factor hindering college students from returning home for employment.

### 5 CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Conclusion

##### 5.1.1 A Summary of college students' willingness to return home for employment

Through the analysis of data models such as correlation and factor, in the investigated samples, 83% of college students are willing to return home for employment and entrepreneurship, and 18% of them are willing to consider returning home for employment and entrepreneurship. From this we can see that with the economic and social development of China's rural areas and the narrowing of the gap between urban and rural areas, more and more college students begin to consider returning home for employment or entrepreneurship. This change not only reflects the renewal of employment concept, but also reflects the effectiveness of the area's strategy of encouraging college students to participate in rural revitalization [5].

##### 5.1.2 The development trend of college students returning home for employment

The situation of college students returning home for employment is the result of many factors, including the changes of macro-policy and market environment. It also involves personal choice and family factors. How will this trend develop in the future? It will be affected by multiple factors such as economic and social development trend, policy orientation and personal values.

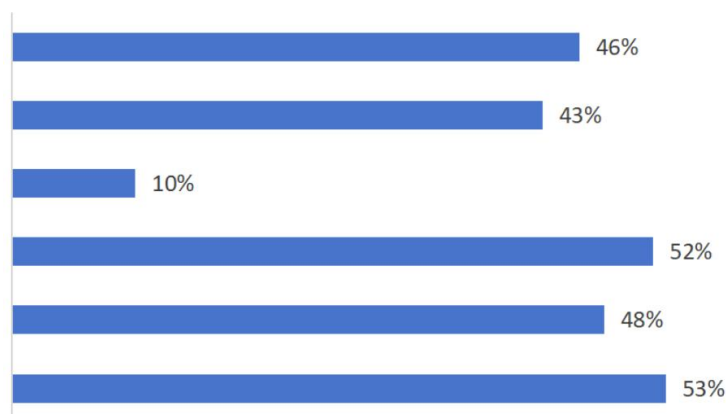


Figure 8 Priority Factors for Employment of College Students

As can be analyzed from Figure 8 of REF \_ Ref22407, the main factors for college students to return home for

employment and entrepreneurship are salary, development prospects, employment environment, and whether social security is complete. Whether the position matches the major, the development prospect accounts for the first, accounting for 53%, and the salary accounts for the second, accounting for 32%. Therefore, in order to encourage college students to return home for employment and entrepreneurship, and to gather talents for rural revitalization. It requires the state, society and universities to make corresponding efforts in the above aspects.

## 5.2 Improvement Plan (Figure 9)

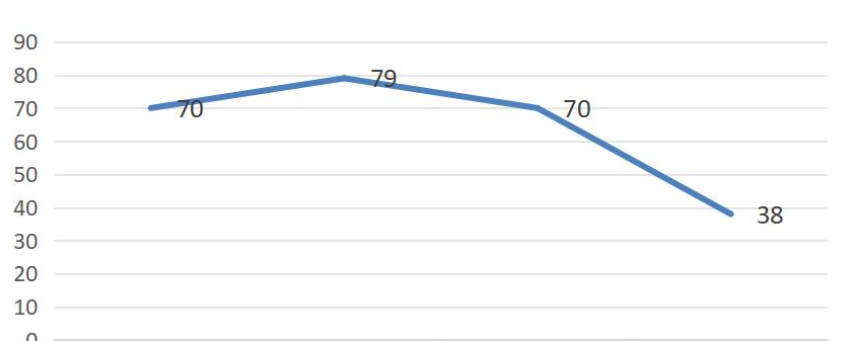


Figure 9 area and Schools can Help

### 5.2.1 The area's guarantee and improvement of college students' employment and entrepreneurship at home

In recent years, the phenomenon of college students returning home for employment in Northwest China has gradually increased. The area needs to provide more protection and improvement measures. According to Figure 9 of REF \_ Ref22486 ¥ H, The introduction of more preferential policies is the most effective help to promote rural college students to return home. As an important measure to support this trend, the area can take the following measures:

The area can increase investment in infrastructure construction in the northwest region to enhance the level of local development and attractiveness. A special financial support plan can be set up to support entrepreneurs and employees in the northwest region. These funds can be used for start-up funds, technical training, market promotion and other aspects of entrepreneurship projects. To help returning college students better integrate into the local social and economic development. In addition, the area can also strengthen vocational guidance and skills training for returning college students to enhance their employment competitiveness. By organizing job fairs, industry training courses and other activities, the area can build more employment opportunities and platforms for returning college students. To help them better realize their dream of employment.

Generally speaking, it is a long-term and complex work for the area to improve the employment security of college students returning home in Northwest China. It needs the joint efforts and support of the whole society. Only when the area, enterprises and all sectors of society work together to promote economic development and increase employment opportunities in the Northwest region, can people in the Northwest region. Only in this way can we realize the benign development of the employment of returning college students. It is hoped that the area's policies will be more humane and precise, and create a better development environment and opportunities for returning college students.

### 5.2.2 The improvement of college students' support for returning home for employment and entrepreneurship

With the rapid development of China's economy and the imbalance between urban and rural development, the problem has gradually become prominent. College students returning home for employment and entrepreneurship has become one of the focuses of current social attention [6-7]. As the cradle of training talents, colleges and universities are very important to support college students to return home for employment and entrepreneurship. However, at present, there are still some shortcomings in the support for college students to return home for employment and entrepreneurship, which need to be further improved.

Colleges and universities should strengthen policy support for college students to return home for employment and entrepreneurship. To formulate targeted policies to provide more employment and entrepreneurship opportunities and support for returning college students. Employment and entrepreneurship guidance lectures, job fairs and other activities can be held. To provide more employment and entrepreneurship information and opportunities for returning college students. At the same time, a service platform for returning home employment and entrepreneurship will be established to provide students with entrepreneurship guidance, project docking and other services. Help them realize their dream of returning home for employment and entrepreneurship smoothly. In addition, colleges and universities can also strengthen cooperation with local and enterprises to jointly promote the employment and entrepreneurship of returning college students. Through the establishment of industry-university-research cooperation mechanism, we can provide more practical training opportunities for students and enhance their employment competitiveness.

### 5.2.3 Suggestions on improving college students' willingness to return home for employment and entrepreneurship

Improve social recognition: actively publicize the outstanding deeds of college students returning home for employment and entrepreneurship, and improve the social recognition of returning college students. So as to enhance their self-confidence and pride, and further stimulate their willingness to return home.

By strengthening the construction of social network, we should actively build a social network platform to provide opportunities for college students to communicate and interact; Improve infrastructure, strengthen rural infrastructure construction, improve living conditions and employment environment in rural areas. Provide more jobs to attract college

students to return home for employment; Publicize and promote rural areas so that college students can understand the development opportunities and potentials of rural areas. To stimulate their interest and motivation in returning home for employment.

### **5.3 Relevant Policy Recommendations**

According to the analysis and conclusion of the report, it is suggested that should introduce corresponding policies to ensure that college students return home for employment:

Support the high-quality development of education. We will support the construction of "double first-class initiative" in colleges and universities in the western region, and focus on strengthening discipline construction to meet the needs of the development of the western region. We will continue to promote the pairing assistance of education in the eastern and western regions. We will continue to implement the plan for colleges and universities in the eastern region to support those in the western region and the plan for the state to support the enrollment cooperation in the central and western regions. We will implement the plan for vocational colleges in the eastern region to match those in the western region.

Broaden the employment space at the grass-roots level. Combining with the implementation of strategies such as regional coordinated development and rural revitalization, we should meet the needs of the modernization of grass-roots governance capacity. We should make good use of the resources of all parties. To tap employment opportunities such as social security, medical and health care, pension services, social work and judicial assistance at the grass-roots level. We will continue to implement grass-roots service projects such as the "Three Supports and One Support" Program, the Rural Special Post Teachers Program, and the University Students Volunteer Service Western Program. Reasonably determine the scale of recruitment.

Optimize recruitment services. Promote public employment services into the campus, and gradually realize the public employment recruitment platform and campus network recruitment information sharing. Establish a mechanism for collecting employment posts for college graduates. It extensively collects job demand plans for college graduates from institutions, enterprises and major projects. Publish to the society and update dynamically.

Strengthen employment guidance. We will improve the career planning and employment guidance system for college students and carry out thematic education activities on employment and education. To guide college graduates to establish a correct outlook on career, employment and career choice. It pays attention to the combination of theory and practice, and carries out various forms of simulation training, vocational experience and other practical teaching. Organize college graduates to enter the human resources market, participate in vocational ability assessment, and receive on-site guidance.

Do a good job of publicity and guidance. We will carry out special publicity on employment policy services and provide timely and easy-to-understand policy interpretations. Typical publicity activities such as "the most beautiful graduates of grass-roots colleges and universities" and "grass-roots employment expedition ceremony" were carried out. We should guide college graduates and other young people to integrate their career choices into the development of the country and realize the value of life in their struggle. We should do a good job in guiding public opinion, respond to social concerns in a timely manner, and stabilize employment expectations.

### **COMPETING INTERESTS**

The authors have no relevant financial or non-financial interests to disclose.

### **FUNDING**

This article is supported by the funding of the Undergraduate Innovation and Entrepreneurship Training Program Project of Beijing Information Science and Technology University, and Kingfar-Beijing Information Science and Technology University Human Factors and Ergonomics Employment and Practice Base.

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# THE INFLUENCE OF CORRUPTION ON THE MANAGEMENT OF TEACHING SERVICE COMMISSION IN EKITI STATE, NIGERIA

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**Abstract:** The study examined the influence of bribery and corruption on the management of the Teaching Service Commission in Nigeria, particularly in the Ekiti state. Two studies' questions and hypotheses guided the study. The research design adopted for the study was an ex post facto type. A random sampling technique was used to draw out 180 participants for the study. Corrupt Practices of Teaching Service Tool (CPTST) and Influence of Corruption on the Teaching Service Commission Scale (ICTSCS) were used to get the opinions of the research participants. Data collected were analyzed with the use of a frequency distribution table and t-tests. The findings of the study showed that laziness among staff, poor student performance in external examinations like WAEC and NECO, low standard of education, employment of unqualified and incompetent teachers, and increase in cases of examination malpractices are the influences of corruption on the management of public secondary schools in Ekiti state, Nigeria. The findings also revealed that sanctioning corrupt offenders in the Teaching Commission, ensuring due process of registration and recruiting of teachers, and enacting laws to check on irregularities in the Teaching Service Commission are managerial strategies to curb the practice of corruption in the Teaching Service Commission. It was recommended that the Management of public secondary schools promote mentoring and value reorientation services for the senior teaching staff to help the junior live up to expectations in secondary school education.

**Keywords:** Influence; Bribery; Corruption; Management; Teaching Service Commission; Ekiti state

## 1 INTRODUCTION

Nigerian society is now undergoing a reformative solution largely due to the confusion in governance, moral decadence, corruption and corrupt practices on the part of educational stakeholders [1]. These actions have affected the quality and delivery of education. It is unfortunate that the educational system has lost its values and that society is not anything better. Education in Nigeria has become one of the most vital and powerful tools for instilling good moral values into its citizens to foster national development [2]. Education serves as the driving mechanism for national development, both economic and political. The school as an agent of socialization in promoting quality education is relied upon to mould the character of people morally, mentally, spiritually, socially and emotionally. Students' ability to adapt to any environment they are in solely depends on support from teachers, classmates and school authorities during the education process.

Education is given great importance by any responsible society that awaits progressive achievements and advancements in the lives of its citizens [3]. Recently, the vision of Nigerian society towards the benefits of education has faced a terrible challenge and downfall due to the rise in corruption and corrupt practices in the education sector, precisely the Teaching Service Commission [4]. Education in Nigeria has been disastrous and become more prone to corruption, thereby setting out the realization that the society perceives it as a sector being relied upon for continuity, change and criticism.

The Nigerian educational system and teaching service commission have over the years been characterized by high levels of bribery and corruption [5,6]. This menace has not been perceived to subside as time goes on. The performance of teachers has been for long used in determining school learning outcomes and effectiveness, as teachers' interaction with students is the pathway to educational quality [7]. However, it is quite unfortunate that most of the corrupt practices perpetrated at the school level by teachers are due to the perception and growing rate of bribery and corruption during their stay at the Teaching Service Commission. The Nigerian case in the direction of the rate of bribery and corruption is somehow critically unfortunate. The reason for this is that teaching officials entrusted with overseeing responsibilities in education simply and ingloriously embezzle or misappropriate whatever funds for this purpose and this decadent behaviour is correspondingly matched with strike actions that make students stay more days in the house than they stay in schools.

Corruption has undermined the education sector, putting product quality from primary to tertiary in jeopardy. Teachers, school officials, parents, students, and other stakeholders are all complicit in these problems, preventing even the best-intentioned efforts to address them from producing the desired results. The school administrator wants a bribe to register a child in school, even though many parents are willing to pay to ensure their children's entrance. Furthermore, school heads work with teachers to solve test questions for their pupils, particularly during external examinations,

because they want to record good marks in the school to attract more students. In recent years, loopholes in the performance of the Teaching Service Commission to produce quality teachers were reported with the 1,300 teachers who failed test meant for primary four pupils in Kaduna, Nigeria [8]. This is largely due to the high rate of nepotism where unqualified teachers are recruited because of knowing someone in the commission or having good connections. Another incident reported by the ICPC webpage of the Provost and Bursar of Federal Cooperative College, Eleyele, Ibadan being sentenced to four years imprisonment without an option of fine, as a result of not remitting a total deficit balance of N3,351,851 back into the coffers of the Federal government in 2006. Teachers' gratuity and pensions for retired teachers are often held by officials by the Teacher's Service Commission, despite being in the annual budgetary allocations.

Bribery and corruption have damaged the educational system, resulting in reduced efficiency, resource waste and misappropriation, and poor service delivery. Because colleges are breeding grounds for destiny generations, corruption within the schooling machine affects more people than corruption in other sectors, both rural and urban places [5]. The Teaching Service Commission's high prevalence of corruption in creating quality and competent instructors has resulted in the majority of cases of absenteeism among public school teachers [9]. Students suffer greatly as a result of instructor incompetence and poor administration since they fall behind in receiving a sound education. Embezzlement and mishandling of funds intended for education development reveal a lack of infrastructure and equipment to support successful teaching and learning [10]. Teachers do not get the most out of their jobs, and this has the potential to cause a major exodus of professionally competent teachers from the teaching profession, leaving it largely staffed by quacks. Any state whose teachers are quacks must evade sound education, which can lead to the production of people whose efforts can contribute to national growth. Again, some courses that need a significant amount of capital to set up and administer cannot be found in a corrupt education system, and where they do exist, the standards are appalling. Poor academic standards in any education system result in a low quality of graduates who are unable to contribute meaningfully to their state's national growth [11].

The practice of corruption has damaged the Nigerian education sector and has led to inefficiency, poor teaching and a high rate of failure among students [8]. Schools which are the breeding ground for students have been immensely corrupted. When a youngster is exposed to all of these unethical behaviours at a young age, he tends to grow up with them and reflect the character traits wherever he goes in the future. However, the study investigates and examines the influence of bribery and corruption on the management of the Teaching Service Commission in Ekiti state, Nigeria.

Corruption is a global phenomenon that affects virtually all strata of the education sector in Nigeria. It varies from one teaching service commission to another, secondary school to another, ministry to ministry, place to place, time to time, culture to culture, and with the level of economic growth. The notion of corruption in Nigeria, particularly in secondary schools, is widespread and uncontrollable. This is because corruption damages every area of the educational system, including political, economic, and social development. It is important to note that corruption is not only prevalent in the governance and educational systems; it is also visible in every human community in Nigeria today [12]. On this note, Samson and John [12] hypothesized that the issue of corruption leads to a point when the common man will look at the trend and conclude that if the rich can do it, then their child must be able to survive as well. As a result, even if they lack the financial means, they will imitate. The total impact is what we are seeing now, and the Ministry of Education and policymakers are doing little to help with the problem of continued corruption in secondary school education.

Nicholas emphasized the impact of corruption on the educational system at a European Commission (EC) conference to help Nigeria's anti-poverty initiatives [13]. According to reports, he remarked, "Nigeria has sufficient funds to address its poverty issues. If the government succeeds in fighting corruption and inefficiency, the money will begin to flow into a working public school system, health care, and water supply, creating the groundwork for poverty eradication" [14]. Furthermore, it has been contended that the government's inability to effectively support the nation's postsecondary institutions in Nigeria is due to 'mismanagement of public monies,' rather than a lack of funds, as the federal government frequently maintains [11].

Corruption hurts our social and economic development, as well as the development of a true nation, particularly in the areas of diversion of development resources for private gain, misallocation of talent, loss of national value tax revenue, negative impact on infrastructure and private services, and economic growth retardation. In a commonwealth summit in London on June 12, 2002, Oyinlola cited the magnitude of loss corruption has caused African countries [8]; it claimed that African countries had lost about 140 billion US dollars due to corruption alone. Taaliu gives a good overview of the negative effects of corruption that have been assessed in recent studies [15]. These include:

- Reduced investment and hence growth due to rising costs and uncertainty;
- Reduce spending on health and education, as these spending are not easily corrupted by those controlling budgetary constraints;
- Reduction in operation and maintenance costs for reasons similar to those in the previous point;
- Arbitrary Increases in public investment because they are easier to manipulate by public and private bidders;
- Reduced productivity of public investments and infrastructure;
- Reduction of tax revenues due to corruption in tax and customs administration;
- Reduce foreign direct investment as corruption acts like a tax: The less predictable the level of corruption (the higher the variance), the greater the impact on foreign investment. Higher volatility makes bribery an unpredictable and arbitrary tax.
- Accepting bribes to enrol a child in school (usually at the school owner level);



- Paying teachers for lessons that have not been taught (usually at the principal's level with notification to the school owner) [16].

Furthermore, when corruption leads to bad management and administration of secondary schools, teaching and learning become affected. Corruption not only disproportionately harms the poor, but it is also likely to create income inequality by allowing specific individuals or groups of individuals to benefit from state activities at the expense of the rest of the population. Taaliu [15], for example, noted that there are significant indicators that recent shifts in income distribution in transition economies have been largely caused by corrupt practices such as non-transparent privatizations.

Corruption among stakeholders, particularly among students, hurts learning. Learners do not attend lectures since the regulations for qualifying for writing examinations, which require 70% attendance, are rarely followed if they can bribe their way through writing and passing the tests [17]. Exam misconduct and other actions like sorting might be caused by insufficient learning and a lack of grasp of the course content. Inadequate learning results in poor student performance and the generation of half-baked graduates, which can lead to low self-esteem and the inability to compete in the labour market, especially in today's market.

Because teachers who accept any sort of bribe from students are unable to look the students in the eyes and often become suspicious to avoid being detected, corruption impacts impartiality in the grading of students' scripts, resulting in low self-esteem and morale. They become authoritative with students who refuse to pay bribes, destroying the mentored-mentor connection that should exist between lecturers and students. It leads to poor service quality among non-teaching employees, particularly in the implementation of building projects at the management level.

Character and moral education are some of the key methods that the Nigerian Ministry of Education, Teaching Service Commission, Examination Councils, Policymakers, and other educational institutions can use in combating corruption in secondary schools. Corruption is a human behaviour that has harmed the minds and emotions of legislators, secondary school proprietors, parents, principals, instructors, and officials charged with enforcing laws and rendered them powerless. In other words, corruption has ruined the morality of secondary school Educational Inspectors, who are responsible for coordinating, assessing, and enforcing the regulations that govern secondary schools in Nigeria. Farzanegan & Witthuhn proposed that character and moral education be made mandatory in Nigerian secondary schools and that it be made a legal requirement [14]. He went on to say that excellent character and moral education would aid young people in developing good judgment, integrity, trustworthiness, and other important attributes.

According to Kayode [18], if children are properly educated and their minds and hearts are cleansed of corruption, they will grow up knowing what is good and wrong, as well as their societal obligations and constraints. The lack of excellent moral character among private school owners could be the source of greed, selfishness, and corruption. The core causes of the nation's social troubles are addressed through good character and moral education, which goes beyond the symptoms of corruption. Corruption is a moral issue; it is incompatible with decent citizens' ethical principles [19]. It is not evident that the Nigerian educational system can combat corruption by monitoring and severely supervising secondary school morals and integrity, and moulding them, to be honest, and trustworthy in their service delivery in the country. "The life of the nation is secure only while the nation is honest, truthful, and virtuous," Wawo correctly observed [20].

According to Okoye [21], a successful fight against corruption must focus on at least three axes, which are prevention, detection, sanctions and restitution. While certain attempts have been taken in the past to prevent corruption and sanction violators through due process, current efforts to uncover corruption are at best half-hearted. He went on to say that a law should be passed that establishes Federal Tribunals for Corruption Offenses (FTCO). The authority of such courts, which sit in Abuja and state capitals, as well as the form of punishments that fall under their jurisdiction, must be clearly defined, as well as the appeal court of law.

The issue of corruption has long been a challenge in the management of education in Nigeria, especially at the secondary level of education. The bane in corrupt practices in public secondary schools in Nigeria and Ekiti state especially is biting very hard and needs to be checked before it goes out of hand. Students who are supposed to learn good morals are faced with the domination of schools with corrupt practices, thereby making them endangered as a result of imitation and replication of people's behaviour they meet at school.

Teachers' absenteeism and carelessness of duty have increased as a result of corruption and the achievement of educational objectives after being confronted by the teaching body. Absenteeism, sexual harassment, mandatory sales of study materials, favouritism, and sex for grades have all become big issues in public education which have become rampant because so many teachers are participating. Because of the high rate of bribery and corruption in the Teaching Service Commission and other teaching bodies, teachers' pay is virtually constantly in arrears; absenteeism appears to be the norm, to the point that some state governments have had to dismiss instructors due to absenteeism. Another contending issue is that the National Union of Teachers (NUT) has frequently shown their displeasure towards the government's neglect and exclusion of teachers from the state governments' minimum wage scheme. Most of the teachers being produced by the Teaching Service Commission are unqualified due to the practice of corruption in the system, while the majority frequently use school hours to further get more studies and leave out their duty and role as teachers. For example, statistics in the year 2010 revealed that only 60% of the more than 550,000 primary school teachers are qualified, with just 17% being proficient in the use of computers.

Despite the global acknowledgement of the importance of education for development, Nigerian teachers continue to work in poor working conditions and receive low and irregular compensation. This is in direct opposition to the widely held belief that teachers are nation-builders whose contributions can never be overstated. Corruption has always been a serious issue in Nigerian education administration, particularly at the Teaching Service Commission. The majority of

debate participants have expressed concern about the rising tide of corruption in the commission. The study's gap necessitates a deeper understanding of bribery and corruption in the Nigerian Teacher's Service Commission, as well as its consequences for the management of public secondary schools in Ekiti state. It is against this background that the study investigates and examines the influence of bribery and corruption on the management of the Teaching Service Commission in Ekiti state, Nigeria.

## 2 PURPOSE OF THE STUDY

The main objective of the study is to examine the influence of corruption on the management of teaching service commission in Ekiti State, Nigeria. However, the specific objectives are to:

1. Ascertain the influence of corruption on the management of the Teaching Service Commission.
2. Identify the managerial strategies to be employed to curb the practice of corruption in the Teaching Service Commission.

## 3 RESEARCH QUESTIONS

The following research questions guided the study:

1. What are the influences of corruption on the management of the Teaching Service Commission?
2. What administrative strategies can be employed to curb the practice of corruption in the Teaching Service Commission?

## 4 RESEARCH HYPOTHESES

The following hypotheses guided the study:

H0<sub>1</sub>: Bribery and corruption have no significant influence on the management of the Teaching Service Commission.

H0<sub>2</sub>: There is no significant relationship between teachers' perception of the practice of bribery and corruption and the management of the Teaching Service Commission in Ekiti State.

## 5 METHODS

The ex-post facto research method was employed for this study. The choice of this design was to a variable on the influence of corruption being unable to be manipulated by the researchers. Besides, the research question posed utilizes data that has already been collected. The population of the study comprises teachers in public secondary schools in Ekiti state. According to the Ekiti State Teachers Commission, their figure stands at 7237. Participants for the study were selected using a random sampling technique to select three local government areas in Ekiti state comprising Ado-Ekiti, Oye-Ekiti and Ikole-Ekiti local government areas. Two public secondary schools were thus selected from each local government area sampled given 180 teachers who served as study participants. Corrupt Practices of Teaching Service Tool (CPTST) and Influence of Corruption on Teaching Service Commission Scale (ICTSCS) were used for data-gathering. CPTST was a 2-point response mode of Yes and No. The ICTSCS was drawn on a 4-point Likert scale ranging from strongly agree to strongly disagree dichotomous scale. Participants were approached at the various public secondary schools of study to partake in the research proceedings. Copies of the questionnaires were self-administered to each participant and the retrieval was done instantly to avoid missing in transit.

Data collected for the study were analyzed using frequency distribution tables. The choice of statistical tool was to identify and analyze the study as reported by the study research questions. T-test was adopted as the statistical technique as it allows the researcher to determine the mean difference in the study hypothesis. However, a significant p-value of .05 was the decision rule for acceptance and rejection of the stated hypothesis of the study.

## 6 RESULTS

Research Question 1: What are the effects of corruption on the management of public secondary schools in Ekiti state?

**Table 1** Frequency and Percentage of the Influence of Corruption on the Management of Public Secondary Schools in Ekiti State

Items	Yes		No	
	F	%	F	%
Increase in cases of examination malpractices	122	67.8	58	32.2
Increase in cultism and anti-social behaviours among students	122	67.8	58	32.2
Employment of unqualified and incompetent teachers	124	68.9	56	31.1

Laziness among staffs	137	76.1	43	23.9
Poor students performance in external examination like WAEC and NECO	136	75.6	44	24.4
Release of half-baked and unproductive graduate into the labour market	114	63.3	66	36.7
Low standard of education	126	70	54	30

Source: Field work 2024

Table 1 above shows that 76.1% of respondents approved that laziness among staff is an effect of corruption on the management of public secondary schools in Ekiti state. 75.6% of respondents approved that poor student performance in external examinations like WAEC and NECO is an effect of corruption on the management of public secondary schools in Ekiti state. 70% of respondents approved that a low standard of education is an effect of corruption on the management of public secondary schools in Ekiti state 68.9% of respondents approved that employment of unqualified and incompetent teachers is an effect of corruption on the management of public secondary schools in Ekiti state, while 67.8% approved that increase in cases of examination malpractices is an effect of corruption on the management of public secondary schools in Ekiti state.

Research Question 2: What are the administrative strategies to be employed to curb the practice of corruption in the teaching service commission?

**Table 2** Frequency and Percentage of the Administrative Strategies Employed to Curb the Practice of Corruption in the Teaching Service Commission

Items	Strongly Agree		Agree		Disagree		Strongly Disagree	
	F	%	F	%	F	%	F	%
	Emphasis should be made on character and moral development of teachers.	61	33.9	69	38.3	24	13.3	26
Laws should be enacted to check on irregularities in the teaching service commission.	63	35	64	35.6	24	13.3	29	16.1
Sanctioning of corrupt offenders in the teaching commission.	74	41.1	53	29.4	23	12.8	30	16.7
Ensuring due process of registration and recruiting of teachers.	65	36.1	68	37.8	21	11.7	26	14.4
Managing and strictly supervising secondary schools administration by the teaching commission.	62	34.4	61	33.9	26	14.4	31	17.2

Source: Field work 2024

Table 2 shows that 41.1% of respondents strongly agreed that sanctioning corrupt offenders in the teaching commission is an administrative strategy to curb the practice of corruption in the teaching service commission, 29.4% agreed, 12.8% disagreed, and 16.7% of respondents strongly disagreed. Respondents who strongly agreed that ensuring due process of registration and recruiting of teachers is an administrative strategy to curb the practice of corruption in the Teaching Service Commission were 36.1%, 37.8% agreed, 11.7% of respondents disagreed, and 14.4% strongly disagreed. 35% of respondents strongly agreed that laws should be enacted to check on irregularities in the Teaching Service Commission, 35.6% agreed, 13.3% disagreed, and 16.1% strongly disagreed.

## 7 TESTING OF HYPOTHESES

Hypothesis 1: Bribery and corruption have no significant impact on the management of the Teaching Service Commission in Ekiti State.

**Table 3** One-Sample T-Test for Hypothesis One

Test Value = 0					
T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
107.540	179	.000	9.10556	8.9385	9.2726

Source: Field work 2024

The result from Table 3 above showed that bribery and corruption have a significant impact on the management of public secondary schools in Ekiti State, considering the item significance level at 1% (as indicated by the sig. level of 0.000). Based on this, hypothesis one is rejected.

Hypothesis 2: There is no significant relationship between the perception of teachers and management on the strategies to be adopted to curb the practice of bribery and corruption in the Teaching Service Commission in Ekiti State.

**Table 4** Correlation Analysis between Teachers and Management on Strategies to be Adopted to Curb Bribery and Corruption in Teaching Service Commission

Variables	N	Mean	SD	R	P value	Remark
Teachers perception of practice of bribery and corruption	180	9.11	1.14	-.045	.550	Not Significant
Management of public secondary schools	180	10.83	2.38			

Source: Field work 2024

The result in Table 4 revealed a significant outcome ( $r = .011$ ,  $P > 0.05$ ). This implied that the mean score on teachers' perception of the practice of bribery and corruption 9.11 is not correlated with the mean score of 10.83 on the management of public secondary schools at the 0.05 level. Hence, the null hypothesis which states that there is no significant relationship between the perception of teachers and management on the strategies to be adopted to curb the practice of bribery and corruption in the Teaching Service Commission is accepted.

## 8 DISCUSSION

### 8.1 Influence of Corruption on the Management of Public Secondary Schools in Ekiti State

The study revealed that laziness among staff, poor student performance in external examinations like WAEC and NECO, low standard of education, employment of unqualified and incompetent teachers, and increase in cases of examination malpractices are the influences of corruption on the management of public secondary schools in Ekiti state. Hypothesis testing also revealed that bribery and corruption have a significant impact on the management of the Teaching Service Commission in Ekiti State. This finding corroborates that of Justesen and Bjornskov who found a decline in the overall performance of number one college students in Brazil and extended dropout quotes in municipalities wherein corruption became prevalent[22]. In addition, the finding agreed with that of Katharina that corruption jeopardized the realization of the objectives of education at the basic level[23]. The implication of this finding on education is that appointment of teachers by taking bribes and appointment qualified teachers or appointing teachers who do not have a teaching certificate will spell doom for the delivery of quality teaching and learning. These non-professional teachers do not even know the philosophy of education and teaching methodologies. The cumulative effect is poor delivery, limited access to education and low student outcomes [6]. The effects or consequences of corruption are long-lasting, spreading over several generations. The young citizens of the country are made to believe that the best way of making it in life is through short cuts as bribery, nepotism, and favouritism. There is this slogan they popularly say "Use what you need to get what you want".

### 8.2 Administrative Strategies Employed to Curb the Practice of Corruption in the Teaching Service Commission

The findings showed that sanctioning corrupt offenders in the Teaching Commission, ensuring due process of registration and recruiting of teachers, and enacting laws to check on irregularities in the Teaching Service Commission are administrative strategies to curb the practice of corruption in the Teaching Service Commission (See appendix 1(table 3). The null hypothesis 2 which states that there is no significant relationship between the perception of teachers and management on the strategies to be adopted to curb the practice of bribery and corruption in the Teaching Service Commission was accepted. The study finding corroborates that of Meet & Narayan who noted that with appropriate compensation for civil servants[24], they would be motivated to improve performance and productivity. Corruption in secondary education can be controlled by applying some administrative strategies including prompt payment of

teachers' salaries, ensuring that teachers are paid a good salary commensurate with the standard of living in the society, formation of anti-corruption clubs, proper value re-orientation, character education and by checkmating the movement of teachers during school hours. Corruption in secondary schools must be curbed. A complete value re-orientation is a best practice that can be adopted to successfully address corruption in secondary schools in Nigeria. The teaching of moral values acceptable by society will be the right option in the present situation to help re-direct Nigerian youths in the right way.

## 9 CONCLUSION

The issues and dimensions of corruption are different in every country. The fight against corruption is the collective responsibility of all citizens. This can be achieved with commitment, good diagnosis and structure, and citizens and parliament working together. However, the fight against corruption has been left to the government and educational institutions alone. The fight against corruption cannot be won in the classroom alone without the support of the family, community and society at large.

The conclusion drawn from this study is that some stakeholders in secondary education perpetrate corruption. Corruption in public secondary schools impacts negatively the quality of teaching and learning, results in dropouts and leads to understaffing of some schools and overstaffing of others. Several administrative strategies can be adopted to curb corruption in public secondary schools in Ekiti state and Nigeria.

## 10 RECOMMENDATIONS

1. Management of public secondary schools should put measures in place to promote awareness of the eradication of corrupt practices. This will enhance carefulness among the erring staff of the commission.
2. Federal and state governments should revisit teachers' condition of service and equip public schools to standard. This will boost their morality in the avoidance of corrupt practices under the watch of the commission.
3. Management of public secondary schools should promote mentoring for the senior teaching staff to help the junior to live up to expectations in secondary school education. Such mentoring in the form of conferences, supervision, workshops, and capacity building among others will expose them to the danger of corrupt practices that are capable of killing the system and will be extraordinarily careful in its exhibition in the system.
4. A complete value re-orientation is a best practice that can be adopted to successfully address corruption in secondary schools in Nigeria. This will put them on the right track to a decent society that will make them live a holistic life in society.

## 11 LIMITATIONS OF STUDY

The findings of this study should be perceived in the context of certain factors.

1. The adoption of survey research limits the assertion and evidence of cause-effect relationships.
2. The study also fails to show comparisons between the public secondary schools in Ekiti state that participated in the study.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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# AN INVESTIGATION INTO ENHANCING THE QUALITY OF COMMERCIAL PROPERTY SERVICES THROUGH THE ANALYSIS OF INTERNAL AND EXTERNAL CUSTOMER SATISFACTION CONFLICTS

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**Abstract:** This study focuses on a commercial property in Hangzhou and employs the SERVQUAL models five core dimensions as its framework. It introduces an innovative approach by incorporating the dual perspectives of internal customers (property employees) and external customers (owners/tenants) to conduct a comprehensive analysis of the factors contributing to satisfaction conflicts among different stakeholders. By modifying the satisfaction rating scale for these two groups and considering the unique characteristics of commercial properties, the evaluation system is enhanced, allowing for the identification of the underlying causes of satisfaction conflicts. This research refines the perspectives and methodologies within the property service domain, offering novel insights for enhancing the quality of commercial property services. Furthermore, the study compares the service quality of the commercial property before and after the implementation of a conflict coordination mechanism, thereby assessing the mechanisms effectiveness and providing actionable recommendations for commercial property managers.

**Keywords:** Commercial property; Customer satisfaction; Property service quality; Satisfaction conflict; Conflict coordination mechanism

## 1 INTRODUCTION

In recent years, with the acceleration of the urbanization process and the vigorous rise of the tertiary industry, the scale of high-end commercial property continues to expand, which indicates that the commercial property service field represented by office buildings contains huge development potential. However, this trend also promotes the property service to the direction of lean, intelligent, professional and commercial value-added, and puts forward more stringent requirements for the service quality. In the face of the growing service expectations of customers, property service enterprises are facing the dual challenges of service quality and customer satisfaction, while the traditional single customer perspective research has been difficult to meet the current complex and changeable needs.

In order to cope with this challenge, this paper focuses on the improvement of service quality of commercial property, constructs a satisfaction evaluation system with the participation of two subjects (internal customers and external customers), and deeply analyzes the internal influence mechanism of satisfaction conflict on service quality. Through this innovative perspective, this paper aims to explore a set of scientific and effective strategies to alleviate the satisfaction conflict between the two subjects and promote the overall improvement of commercial property service quality. This study not only enriches the theoretical system of property service management, but also provides a solid theoretical support and practical path for the optimization of service quality and customer loyalty enhancement in practice.

## 2 LITERATURE REVIEW AND MODEL CONSTRUCTION

### 2.1 Literature Review

#### 2.1.1 Customer satisfaction and service quality

Dong Jian's in-depth research on the beauty and hairdressing industry shows that customer satisfaction has a significant positive effect on the three core dimensions of service quality — reliability, tangible and empathy. This discovery reveals that customer satisfaction in a single service experience can shape the evaluation framework of customers overall service quality in the long term[1]. Chen Peifeng further confirmed this view by meta-analysis of relevant research results at home and abroad, emphasizing that single customer satisfaction is not only immediate emotional feedback, but also the cornerstone of long-term service quality perception. In view of this paper focusing on the enterprise perspective of commercial property service quality improvement, and considering the continuity and repetition of customer service scenarios of commercial office buildings, we select customer satisfaction as the leading factor of service quality improvement for in-depth exploration, aiming to promote the continuous optimization of service quality from the enterprise strategic level[2].

#### 2.1.2 Customer satisfaction and satisfaction conflict

Ma Yongxia, Zhang Xue and Shi Han innovatively examined the evaluation of employability satisfaction from the perspective of dual customers (college students and enterprises), and revealed the difference between universities and

enterprises in evaluating the employability of college students and the satisfaction conflict caused by it. His research found that targeted measures to reduce this difference can effectively improve the satisfaction of both sides and promote the effective connection between education supply and market demand[3]. On this basis, in response to the development of high quality era, put forward in the internal (such as students) and external (e. g., enterprise) customer satisfaction reached high levels, reduce the importance of satisfaction of the conflict, and infer customer satisfaction to alleviate the satisfaction conflict has negative adjustment, namely satisfaction is helps to narrow the gap between expectations and perception.

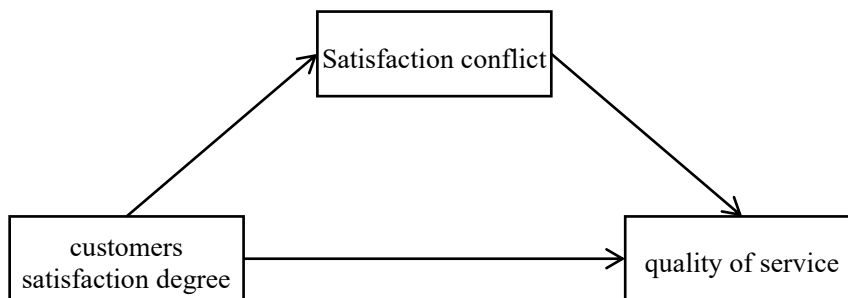
**2.1.3 Satisfaction conflict and service quality**

Wang Lili exploration in the field of doctor-patient relationship revealed how the heterogeneity of satisfaction evaluation criteria affects the evaluation of service quality, especially the mismatch of service expectation and perception between doctors and patients[4]. Li Bin introduced this perspective into the field of property management, and found that the satisfaction conflict between owners and property employees was directly related to the operation performance of property enterprises, emphasizing the key role of satisfaction harmony in service quality and enterprise performance[5]. Based on this, this paper deepens this point of view, clearly pointing out that satisfaction conflict, as a product of the inconsistent expectation and perception of both service providers and recipients, has a negative impact on service quality, that is, reducing satisfaction conflict is one of the effective ways to improve service quality.

On the basis of integrating the research results of many scholars on internal customers (property employees) and external customers (owners and tenants), this paper innovatively broadens the dimension of the evaluation of property service satisfaction. As the front line of service, the property staff is not only the direct executor of service quality, but also the keen observer and profound perception of the service process. Its satisfaction evaluation is crucial for the comprehensive measurement of property service quality. At the same time, this paper has a keen insight that due to the differences between internal and external customers in positions, roles and expectations, there is a natural conflict between the satisfaction evaluation of the two, this conflict is rooted in the understanding of service standards, the inconsistency of expectations and perception, is the current academic research.

**2.2 Model Building**

According to the research purpose and literature discussion, this paper constructs the following theoretical model, such as specific Figure 1 as shown.



**Figure 1** Theoretical Models

**3 EMPIRICAL STUDY**

In this study, random floor owners / tenant representatives in an office building in Hangzhou and corresponding property practitioners including customer service, security, environment, engineering line and service center were selected as the survey objects, and the combination of paper questionnaire and scanning QR code was used. A total of 169 questionnaires were issued in this survey, and 146 questionnaires were recovered, with a recovery rate of 86.4%, among which 131 valid samples had an effective rate of 89.7%.

**3.1 Variables and Scales**

**3.1.1 Customers satisfaction degree**

This paper follows the existing literature study of customer satisfaction measurement[6]At the same time, considering the purpose of the satisfaction conflict studied in this paper, the customer satisfaction evaluation system is obtained after referring to the two satisfaction evaluation questionnaires of commercial property (see Table 1).

**Table 1** Customer Satisfaction Evaluation System

range of services	Specific indicators
Four Guarantees and One Service	Hygiene status of the periphery and the corridors
	Hygienic conditions in the building and in the toilet
	Disinfection services in public areas



Business characteristic service	Greening maintenance
	Maintenance speed of equipment and facilities
	Fire management
	Vehicle management
	Safety situation inside and outside the building
	Building noise and pollution control situation
	Management situation of the property decoration site
	The timeliness of the property contract management
	Advertising management of property management
	Property smoking ban management situation
	Property control of external harassment (sales promotion, advertising, etc.)
	Building air conditioning / heating temperature (comfort) situation
	Property management to deal with the building emergency handling situation
	Property express cabinet management and express building delivery services

**3.1.2 Satisfaction conflict**

The customer satisfaction studied in this paper is based on the joint evaluation of two subjects, so it is inevitable that there will be differences in the satisfaction evaluation, among which the obvious possibility is the difference between the service standard recognized by the owner and the service standard recognized by the employee[7]Of course, there will be different types of conflict inducement combined with the actual operation of specific projects.

In order to highlight the conflict degree of internal and external customer satisfaction in various property services, Li Bins satisfaction conflict formula is used for reference[5]On the basis, this paper still retains its average idea and makes corresponding adjustment, that is, the satisfaction conflict of the two subjects = the average evaluation of all property employee satisfaction-the average of all owners satisfaction evaluation. For individuals with different subjects, satisfaction conflict = (mean of individual employee satisfaction evaluation-mean of all owner satisfaction evaluation) + 7 or satisfaction conflict = (mean of all employee satisfaction evaluation-mean of individual owner satisfaction evaluation) + 7.

**3.1.3 Quality of service**

In recent years, many scholars have applied SERVQUAL to the field of property service research. The evaluation index of service quality in this paper mainly refers to the measurement scheme of Wang Jiankang in studying the improvement of property service quality of M Company[8]In combination with repeated factors with the satisfaction evaluation index, a small dimension index was adjusted, and finally 16 measurement indicators in five dimensions were determined (see Table 2).

**Table 2** Property Service Quality Evaluation System

dimension	Specific indicators
Tangible	Commercial property office environment atmosphere, beautiful
	The infrastructure in the commercial buildings is fully equipped
	Property management staff dress standard, neat and decent
	Signs and signs in public areas are eye-catching, clear and clear
Reliability	Property management service personnel to complete the specific service content according to the commitment
	Property management of all property fees are transparent
	Protect the owner and tenant information
Responsiveness	Be able to easily contact the service staff if necessary
	The property has responded quickly to the needs of the owners
	The property management effectively handles complaints, and timely feedback complaints
Assurance	Property company employees have better knowledge and literacy
	Property company staff are serious and responsible, warm and patient
Empathy	Property service personnel have good professional skills
	The property management will take the initiative to follow you or investigate your service needs
	Property to put the owners rights in the first place

## By area for your matching property manager

The reliability validity test of the data of the questionnaire was conducted using SPSS23.0 software, and the results showed that the Cronbach  $\alpha$  coefficient of all variables or dimensions was above 0.8, indicating that the scale used met this study.

### 3.2 Correlation Analysis

In compliance with Table 3 as shown, the correlation coefficient of customer satisfaction and service quality is between 0.4 and 0.6, which shows a moderate positive correlation. The correlation coefficient between customer satisfaction and service quality was 0.709, showing a significant positive correlation. As can be seen from the data in the table, the correlation coefficient between customer satisfaction and service quality empathy is 0.588, which is the largest correlation coefficient, indicating that customer satisfaction and empathy have the highest correlation degree. According to the above analysis, a regression analysis can be carried out to further explore the causal relationship between customer satisfaction and service quality and its various dimensions.

**Table 3** Customer Satisfaction and Service Quality and Their Respective Dimensions

		quality of service	Tangible	reliability	reactive mode	Guarantee	Empathy
customers satisfaction degree	Pearson Correlation	.709**	.474**	.451**	.429**	.408**	.588**
	Significance (double-tailed)	.000	.000	.000	.000	.000	.000

Note: \* $p < 0.05$ , \*\* $p < 0.01$

In compliance with Table 4 as shown, the correlation coefficient between satisfaction conflict and customer satisfaction was -0.503, showing a moderate negative correlation. The correlation coefficient between satisfaction conflict and service quality was -0.469, showing a moderate negative correlation. According to the above analysis, a regression analysis can be carried out to further explore the causal relationship between satisfaction conflict, customer satisfaction and service quality.

**Table 4** Analysis Between Satisfaction Conflict and Customer Satisfaction and Service Quality

		customers satisfaction degree	quality of service
Satisfaction conflict	Pearson Correlation	-.503**	-.469**
	Significance (double-tailed)	.000	.000

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$

### 3.3 Regression Analysis

Regression analysis was performed on customer satisfaction as the independent variable and service quality as the dependent variable, and the results are presented in Table 5. The data showed that  $\beta = 0.487$ ,  $p < 0.01$ , indicating that customer satisfaction had a significant positive impact on service quality.

**Table 5** Regression Analysis of Customer Satisfaction and Service Quality

	Unstandardized coefficients		Standardization coefficient	t	p
	B	standard error	Beta		
constant	-3.064	.254	-	-12.080	.000**
customers satisfaction degree	.487	.043	.709	11.428	.000**
R <sup>2</sup>			.503		
adjust R <sup>2</sup>			.499		
F			130.608		

Note: Dependent variable: quality of service, \*  $p < 0.05$ , \*\*  $p < 0.01$

With customer satisfaction as the independent variable, the five factors affecting the service quality of commercial property were analyzed as the dependent variables, and the results are shown in the following Table 6-10, respectively. The results show that customer satisfaction has a significant positive impact on the tangible quality, reliability, responsiveness, assurance and empathy of service quality.

**Table 6** Customer Satisfaction and Tangible Regression Analysis

	Unstandardized coefficients		Standardization	t	p
	B	standard error	coefficient		
constant	-3.150	.511	-	-6.160	.000**
customers satisfaction degree	.525	.086	.474	6.114	.000**
R <sup>2</sup>			.225		
adjust R <sup>2</sup>			.219		
F			37.379		

Note: Dependent variable: tangible of service quality, \* p <0.05, \*\* p <0.01

**Table 7** Customer Satisfaction and Reliability Regression Analysis

	Unstandardized coefficients		Standardization	t	p
	B	standard error	coefficient		
constant	-2.872	.460	-	-6.239	.000**
customers satisfaction degree	.444	.077	.451	5.742	.000**
R <sup>2</sup>			.204		
adjust R <sup>2</sup>			.197		
F			32.972		

Note: Dependent variable: quality of service reliability, \* p <0.05, \*\* p <0.01

**Table 8** Customer Satisfaction and Responsiveness Regression Analysis

	Unstandardized coefficients		Standardization	t	p
	B	standard error	coefficient		
constant	-2.573	.450	-	-5.713	.000**
customers satisfaction degree	.408	.076	.429	5.398	.000**
R <sup>2</sup>			.184		
adjust R <sup>2</sup>			.178		
F			29.138		

Note: Dependent variable: service quality responsiveness, \* p <0.05, \*\* p <0.01

**Table 9** Customer Satisfaction and Assurance Regression Analysis

	Unstandardized coefficients		Standardization	t	p
	B	standard error	coefficient		
constant	-2.723	.490	-	-5.561	.000**
customers satisfaction degree	.417	.082	.408	5.075	.000**
R <sup>2</sup>			.166		
adjust R <sup>2</sup>			.160		
F			25.753		

Note: Dependent variable: service quality assurance, \* p <0.05, \*\* p <0.01

**Table 10** Regression Analysis of Customer Satisfaction and Empathy

	Unstandardized coefficients		Standardization	t	p
	B	standard error	coefficient		
constant	-3.964	.451	-	-8.798	.000**
customers satisfaction degree	.625	.076	.588	8.259	.000**
R <sup>2</sup>			.346		
adjust R <sup>2</sup>			.341		
F			68.217		

Note: Dependent variable: service quality empathy, \* p <0.05, \*\* p <0.01

Regression analysis was performed on customer satisfaction as the independent variable and satisfaction conflict as the dependent variable, and the results are shown in Table 11. The data showed that  $\beta = -0.499$ ,  $p < 0.01$ , indicating that

customer satisfaction has a significant negative effect on the satisfaction conflict.

**Table 11** Regression Analysis of Customer Satisfaction and Satisfaction

	Unstandardized coefficients		Standardization	t	p
	B	standard error	Beta		
constant	10.166	.450	-	22.598	.000**
customers satisfaction degree	-.499	.076	-.503	-6.608	.000**
R <sup>2</sup>			.253		
adjust R <sup>2</sup>			.247		
F			43.668		

Note: Dependent variable: satisfaction conflict, \* p <0.05, \*\* p <0.01

Regression analysis was performed based on satisfaction conflict as the independent variable and service quality as the dependent variable, and the results are shown in Table 12. The data showed  $\beta = -0.324$ ,  $p < 0.01$ , indicating that the satisfaction conflict had a significant negative impact on service quality.

**Table 12** Regression Analysis of Satisfaction Conflict and Service Quality

	Unstandardized coefficients		Standardization	t	p
	B	standard error	Beta		
constant	2.146	.391	-	5.485	.000**
customers satisfaction degree	-.324	.054	-.469	-6.030	.000**
R <sup>2</sup>			.220		
adjust R <sup>2</sup>			.214		
F			36.362		

Note: Dependent variable: quality of service, \* p <0.05, \*\* p <0.01

### 3.4 T Checkout

As shown in Table 13, among the customer satisfaction variable, the health condition in the building and toilet ( $t=2.655$ ,  $P = 0.009$ ), CS7, or vehicle management ( $t=2.270$ ,  $P = 0.025$ ), CS10, namely, the management situation of the property decoration site ( $t=2.038$ ,  $P = 0.044$ ), CS12, the advertising management of property ( $t=2.031$ ,  $P = 0.044$ ) showed significant difference in the identity variables, that is, in these four items, the owner satisfaction evaluation is significantly lower than the property employee satisfaction evaluation. Therefore, this paper believes that there is a conflict between internal and external customer satisfaction.

**Table 13** Customer Satisfaction is T-tested on the Identity

Question item	Property Staff (N=38)		Non-property employee (N=93)		Mean value difference value	t	p
	M	SD	M	SD			
CS1	6.18	.896	5.97	.938	.216	1.214	.227
CS2	6.21	.875	5.61	1.269	.598	2.655**	.009
CS3	6.00	.959	5.73	1.054	.269	1.358	.177
CS4	6.18	.926	6.02	.989	.163	.870	.386
CS5	6.08	1.148	5.91	1.148	.165	.746	.457
CS6	6.13	.991	6.06	.987	.067	.353	.725
CS7	6.08	.941	5.54	1.340	.541	2.270*	.025
CS8	5.97	1.000	5.83	1.059	.146	.726	.469
CS9	6.03	1.103	5.79	1.121	.241	1.123	.263
CS10	6.08	.969	5.68	1.044	.402	2.038*	.044
CS11	5.84	1.242	5.87	1.115	-.029	-.130	.897
CS12	6.08	.997	5.67	1.077	.412	2.031*	.044
CS13	6.03	1.127	5.71	1.290	.317	1.320	.189
CS14	6.18	.955	5.84	1.135	.346	1.652	.101
CS15	6.05	.985	5.86	1.256	.192	.844	.400

CS16	6.24	.883	5.89	1.047	.344	1.783	.077
CS17	6.08	.882	5.76	1.097	.316	1.576	.118

Note: \* p <0.05, \*\* p <0.01

#### 4 RESEARCH ON SERVICE QUALITY IMPROVEMENT

##### 4.1 Conflict Coordination Mechanism

Etgar found that low quality communication may cause misunderstanding and dissatisfaction and conflict[9]. Therefore, this paper combines the actual situation of the property industry, lists the following three communication coordination mechanisms and applies them to the corresponding conflict areas(see Table 14).

**Table 14** Communication-Type Conflict Coordination Mechanism

Coordination mechanism indicators	way of doing or making a thing
Communication-type coordination mechanism	Both parties take the initiative to strengthen the quality and frequency of communication Hold symposiums and associations regularly Set up a project service hotline and a suggestion box

Wu Mengqiang and others believe that it is effective to correct the conflict by timely correcting the internal management system of the project, integrating and establishing the authority of conflict handling and the third-party authoritative appraisal[10]. Therefore, this paper combines the actual situation of the property industry and lists the following three coordination mechanisms of the organization and applies them to the corresponding conflict areas(see Table 15).

**Table 15** Organizational Conflict Coordination Mechanism

Coordination mechanism indicators	way of doing or making a thing
Organizational coordination mechanism	Property services are evaluated by a third-party organization The project leader shall re-audit the workload of each fixed post staff Each supervisor strengthens the employee work cognition training from the perspective of the owner

Xiang Pengcheng and Pang Xianya put forward the interest coordination mechanism when studying the horizontal government conflicts of major trans-regional engineering projects, and paid attention to the reasonable interest distribution and compensation mechanism to actively promote all subjects to achieve the common goal[11]. Therefore, this paper combines the actual situation of the property industry, lists the following two incentive coordination mechanisms and applies them to the corresponding conflict areas(see Table 16).

**Table 16** The Incentive-Type Conflict Coordination Mechanism

Coordination mechanism indicators	way of doing or making a thing
Incentive-type coordination mechanism	The owner participates in the performance appraisal of the employee Monthly outsourcing property service fee is linked to service efficiency

##### 4.2 Satisfaction Conflict Analysis and Coordination

First of all, the inducement of the internal and external customer satisfaction conflict between the building and the toilet are analyzed. As an important public facility in the building, the cleanliness and maintenance conditions are directly related to the overall experience and satisfaction of customers. Owners expectations for bathrooms include a comfortable, odor-free environment and an adequate supply of daily consumables (such as toilet paper), based on their basic requirements for the service quality of the building. However, property staff may view the cleaning and maintenance of bathrooms as part of their routine job responsibilities and fail to fully appreciate the importance of these work to improve customer satisfaction. This cognitive difference may lead to a deviation between the service quality and the expectations of the owners or tenants, thus leading to satisfaction conflicts.

Through the above analysis, it can be concluded that the cause of CS2 satisfaction conflict is that the service standard of internal and external customer cognition is not unified. So this paper choose organizational conflict coordination mechanism to adjust, on the one hand, improve the project create positions personnel the scope of work and establish a good staff leave work handover program control, on the other hand, hope to strengthen the property staff training let

employees fully aware of the gap between the owner service standards, can deep insight into the owner demand peak, and adjust their service frequency accordingly.

Secondly, the inducement of the internal and external customer satisfaction conflict of CS7 is analyzed. Since the management of the parking lot of the investigation project is operated by Party A, the property is collected, and the change of parking information, temporary parking registration and gate charging shall be reviewed by Party A. Due to the limited underground parking space in commercial buildings, customers can only choose temporary parking, which leads to the time shortage in communication with the property management, which is easy to produce dissatisfaction. In addition, elevator maintenance and other outsourcing matters also need the property to communicate with the third party to increase the difficulty of solving.

Through the above analysis, it can be concluded that the cause of CS7 satisfaction conflict is information asymmetry. So this paper choose communication conflict coordination mechanism to adjust, first to strengthen the communication between the two subjects is the owner timely the vehicle stop reaction to the property, property timely response to party a approval and timely processing information feedback to the owner, the second property personnel to the owner of the misunderstanding of their work to take good communication skills, let the owner understand the process of the matter.

In view of the fact that the property grassroots service personnel face the long-term and stable income level, they may have the psychological state of service satisfaction complacency and content with the status quo, which then suppresses the internal motivation to improve the service quality. At the same time, the service demand of the owner group continues to expand. In order to effectively alleviate the conflict of internal and external customer satisfaction, this paper proposes to introduce the incentive conflict coordination mechanism of owner participation. The specific strategy is to give the grass-roots staff of the property a certain degree of performance management authority, so that the owners satisfaction evaluation can become one of the key indicators of employee performance assessment. In addition, for the case of outsourcing service supervisors, in view of the limitations of training and incentive under the fixed fee model, this paper proposes to coordinate the monthly outsourcing property service fee with incentive conflict coordination mechanism and service efficiency linked items.

Combined with the above analysis, this paper summarizes the three inducements leading to the satisfaction conflict and the corresponding three conflict coordination mechanisms, and the specific collocation situation is summarized as follows Table 17 as shown.

**Table 17** Conflict Inducement and Coordination Mechanism Collocation

Satisfaction conflict triggers	With the conflict coordination mechanism
Service standards are not uniform	Organizational conflict coordination mechanism
Information Asymmetry	Communication-type conflict coordination mechanism
The contradiction between the safety of the current quo and the infinite demand of the owners	The incentive-type conflict coordination mechanism

For the satisfaction conflict item CS10, namely the management of property decoration site, there may be conflict inducement with inconsistent service standards. Property employees tend to increase the frequency of environmental cleaning during the floor decoration, and require the decoration enterprises to follow the relevant regulations of the company and the society, including but not limited to obtaining seven necessary certificates such as garbage removal certificate, and the fees will be collected by the property manager for construction garbage collection and transportation. However, from the perspective of the owner, the property should ensure that the decoration activities do not interfere with its normal operation, and do not damage its own property such as the door frame, etc. In particular, the decoration time may cause conflicts due to the different understanding of different enterprises on their daily operation time. Therefore, this paper believes that the organizational conflict coordination mechanism should be combined. In addition, the CS10 conflict entry housekeeper may not inform the other owners who may be affected before the decoration, so that they can have a certain time to adjust their own business; the decoration owners may not understand the use of the seven certificates and then generate the idea of compulsory property charges, that is, there may be information asymmetry, so this paper believes that the communication conflict coordination mechanism should be matched.

There may also be information asymmetry in the advertising management of CS12, namely property. For example, the property management personnel (such as housekeeper) may not be immediately aware of the existence of illegal advertisements (such as MLM cards) in the building, relying on the owners to take expulsion measures; there are illegal placement of advertising boards and other items in the commercial floor, although the property daily inspection and the removal, but some owners may still privately illegal placement, causing dissatisfaction of other owners. Therefore, this paper believes that the communication conflict coordination mechanism should be combined.

Through the above analysis, the above four important internal and external customer satisfaction conflicts are summarized as Table 18 as shown.

**Table 18** Conflict Items and Coordination Mechanisms are Matched

Satisfaction conflict entries	The major conflict coordination mechanisms adopted
Hygienic conditions in the building and in the toilet	Organizational conflict coordination mechanism

Vehicle management	The incentive-type conflict coordination mechanism Communication-type conflict coordination mechanism
Property decoration site management	The incentive-type conflict coordination mechanism Organizational conflict coordination mechanism
Advertising management of property management	Communication-type conflict coordination mechanism Communication-type conflict coordination mechanism

### 4.3 Comparison of Service Quality Before and After Conflict Coordination

Comprehensive analysis of the above three types of satisfaction conflict inducement and three conflict coordination mechanism, through Suggestions to the property project manager, and applied to the commercial property project daily operation, after half a month the improvement of service and organizational adjustment, through the owners of the secondary service quality of service expectation and perception data, combined with the first survey of the owners, summarize the secondary service quality and initial service quality data comparison table such as Table 19 as shown.

**Table 19** Comparison Table of Service Quality before and after Conflict Coordination

dimension	Quality of initial service			Secondary service quality		
	expectation	perception	quality of service	expectation	perception	quality of service
Tangible	5.98	5.84	-0.14	5.87	6.03	0.16
reliability	6.07	5.71	-0.36	6.07	6.13	0.06
reactive mode	6.08	5.89	-0.19	6.07	6.03	-0.04
Guarantee	6.01	5.72	-0.29	6.00	6.07	0.07
Empathy	5.99	5.70	-0.29	6.13	6.20	0.07

As can be seen from the table, after the implementation of the conflict coordination mechanism, the owners have stable expectations and the tangible expectation is slightly decreased, which reflects the deeper understanding of the limitations and challenges faced by property employees in the provision of empathy expectation is significantly increased, indicating that the effectiveness of the conflict coordination mechanism makes the owners eager to be more valued in the service process.

After the application of the conflict coordination mechanism in a short period of time, the owners perception of all dimensions of service has been significantly improved, which proves that the services provided by the property after the conflict coordination are more efficient and high-quality, and more follows the owners service demand will. From the perspective of the growth rate, the perception of empathy dimension increases the most, which shows that the owners really perceive their ownership status in the process of property service.

Through the service quality calculation formula:  $\text{service quality} = \text{perception} - \text{expectations}$ , conflict coordination after each dimension service quality are improved, namely the expectation and perception to almost dynamic, especially the physical, reliability, guarantee, ambiance dimension service quality is greater than 0 prove that the owners perception beyond the expectation that the dimension service quality level is extremely high. Therefore, this paper holds that the conflict coordination mechanism is effective in improving the quality of service.

## 5 STUDY CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Research Conclusions

This paper innovatively introduces the dual perspective of internal customers (property staff) and external customers (owners / tenants) to deeply analyze the causes of satisfaction conflict caused by different subjects. The satisfaction evaluation scale is adjusted for the two subjects and combined with the characteristics of the commercial property to enrich the evaluation system and identify the inducement of the satisfaction conflict. The conclusion can be summarized as follows:

1. After detailed data collection and in-depth analysis, this study clearly reveals the close correlation between customer satisfaction and service quality. Specifically, customer satisfaction not only shows a strong positive driving effect on service quality on the whole, but also refines its influence to each core dimension of service quality — tangible, reliability, responsiveness, guarantee and empathy, which show a significant positive correlation. This finding reinforces the principle of high syncotropy between customer satisfaction and service quality evaluation. Further, regression analysis accurately reveals the customer satisfaction in reducing the satisfaction of the positive role of conflict, namely the customer satisfaction level directly corresponding to the satisfaction of the conflict, and the satisfaction conflict significantly inhibit the service quality, further verify the customer experience in the property management.
2. In view of the management problem of satisfaction conflict, this study innovatively introduced the conflict coordination mechanism, and conducted an empirical test by comparing the changes of service quality before and after the implementation. The results show that the application of this mechanism has significantly promoted the overall improvement of all dimensions of service quality, whether from the tangible improvement of intuitive feeling, to the reliability and responsiveness of the service process, to the deepening of customer trust guarantee and the strengthening

of personalized care, all have achieved a qualitative leap. This effect not only verified the conflict coordination mechanism in alleviating the effectiveness of the satisfaction conflict, more commercial property managers provide feasible operation path and strategy optimization Suggestions, through the mechanism of continuous optimization and innovation application, continue to promote the quality of service spiral, build a more harmonious symbiotic property management environment.

## 5.2 Research Implications

Combined with the in-depth empirical analysis and research results of this paper, from the unique perspective of internal and external customer satisfaction conflict, the following strategic suggestions are put forward to the property enterprises to improve the service quality of commercial property:

1. **Dynamic optimization of service standards:** In view of the difference of service standards is an important factor leading to the conflict of satisfaction, it is suggested that property enterprises should firmly establish the service concept with the needs of owners as the core in their daily operation. Special focus should be placed on the hot spots and pain points of the long-term feedback from the owners, and should give a deep insight into the real needs of the owners through the way of full participation. At the same time, the third-party service evaluation mechanism is introduced to ensure the objectivity and fairness of the service evaluation system, and to provide a solid basis for the formulation and adjustment of service standards. The building management team should flexibly respond to the changes of the owners needs, timely adjust and refine the service standards, and implement personalized service strategies in combination with the building characteristics, so as to achieve accurate docking and efficient satisfaction, and then improve the owners satisfaction.
2. **Strengthening information transparency and communication efficiency:** Information asymmetry is another key cause of satisfaction conflict. In order to eliminate the dissatisfaction of the owners caused by the lack of information, the property enterprises should strengthen the communication with the owners, improve the communication ability and pressure resistance ability of the employees, especially the customer service and the housekeeper team, and ensure the accuracy and timeliness of information communication. Through diversified communication channels, such as regular owners symposiums, fellowship activities, and the establishment of service hotlines and suggestion boxes, we can enhance the owners sense of participation and trust, and reduce misunderstandings and conflicts.
3. **Simplify internal communication process:** In view of the timeliness problem caused by complicated internal communication, it is suggested that the housekeeper should be given higher decision-making power and coordination ability in project management, so that he can become the direct person in charge of the building. By constructing the straight-line communication mechanism between the housekeeper and various departments, the information transmission chain is simplified, the problem response and solution process is accelerated, and the overall service efficiency and owner satisfaction are improved.
4. **The deep integration of owner supervision mechanism:** in order to give full play to the positive role of owners in property service supervision, we can try to appoint owners as project quality inspectors, and give them certain performance evaluation power and material incentives, such as enjoying the park sales commission according to the supervision results. Through regular rotation of inspectors, ensure the comprehensiveness and fairness of supervision, and stimulate the enthusiasm and sense of belonging of owners. This mechanism not only improves the owners supervision of the property services, but also effectively encourages the employees to continuously improve the service quality, forming a virtuous cycle between the owners and the property owners.
5. **The continuous upgrading of employees professional ability:** the lack of employees professional ability is often one of the root causes of the satisfaction conflict. Therefore, it is suggested that property enterprises should increase their investment in staff training and establish a systematic learning and development mechanism. For management, encourage cross-project communication and learning and advanced management experience, implement comprehensive ability assessment and training plan, focusing on improving key skills such as etiquette and communication skills. Through the continuous improvement of the staff ability, we can ensure that the property services can accurately connect with the growing diversified and personalized needs of the owners, so as to achieve the continuous improvement of the owners satisfaction.

## 5.3 Research Limitations and Future Directions

Although this study deeply discusses the service quality of commercial property in a specific situation, namely an office building in Hangzhou, it inevitably faces some limitations. The first thing lies in the limitations of the sample range. It only focuses on specific groups in a limited area, which makes the diversity and representativeness of the sample lacking, and may not be able to fully cover the universality and complexity of commercial property services. In addition, due to the limited time and resource conditions, this study failed to fully realize the ideal standard for quantitative analysis in the process of model construction and empirical analysis. Especially for the evaluation of the effect of conflict coordination mechanism, only through the overall improvement of service quality as indirect evidence, the evidence chain is relatively thin, and it is difficult to fully show the subtle differences and deep-seated mechanism of the mechanism.

In order to overcome the above limitations, and further deepen the understanding of the service quality of commercial property and its improvement strategies, the future research should be committed to the expansion and deepening of the



following aspects. First of all, efforts should be made to improve the universality and representativeness of the sample. By expanding the scope of questionnaire survey, implementing cross-regional in-depth research, and incorporating more types and levels of commercial property projects, so as to build a more comprehensive and three-dimensional data set, so as to more accurately reflect the real appearance and universal law of commercial property services. Secondly, the scientific nature and rigor of research methods should be strengthened, and more detailed quantitative analysis tools and models should be used to conduct more in-depth and detailed analysis and verification of key factors such as conflict coordination mechanism, so as to reveal their internal action mechanism and effect differences. Finally, the future research can also explore the integration of technical factors into the service quality evaluation system, such as the use of big data, artificial intelligence and other advanced technologies, to achieve real-time monitoring and accurate optimization of service quality, and bring unprecedented innovation and reform to commercial property management.

## **FUNDING**

This study was supported by Zhejiang Shuren University Basic Scientific Research Special Funds (No.: 2023 XZ 020).

## **COMPETING INTERESTS**

The authors have no relevant financial or non-financial interests to disclose.

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# ON THE ARTISTIC FEATURES OF THE SICHUAN OPERA "LITTLE RADISH HEAD"

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**Abstract:** The original Sichuan Opera "Little Radish Head" by the University of Electronic Science and Technology takes the red stories from the Bashu land as its background and material, organically combining traditional art with modern red classic stories. At the same time, it integrates technological elements into traditional opera based on the university's academic background, endowing Sichuan Opera with new vitality.

**Keywords:** Sichuan Opera art; Traditional culture; *Little Radish Head*

## 1 INTRODUCTION

Opera, as an excellent traditional Chinese culture, is nurtured by the vast land of China, rooted in the deep soil of traditional society, absorbing the rich nutrients of Chinese civilization, containing the genetic characteristics of Chinese culture, and condensing into a representative form of national art. The Central Propaganda Department issued a response to journalists titled "Let Excellent Traditional Culture Truly Live and Pass On," which particularly pointed out that traditional Chinese opera culture faces serious problems in inheritance and development under the informatization ecosystem, and opera work cannot keep pace with modern culture and communication methods. This directly leads to a sharp decrease in the number of opera audiences, especially the lack of interest from the younger generation in drama. To some extent, this is not a problem of opera development, but a problem of opera survival. Under the informatization ecosystem, how to let more young people recognize and contact, promote the creative transformation and innovative development of opera culture, and the inheritance of excellent traditional Chinese culture is the question of the times facing college educators [1][2].

Sichuan Opera, as a national intangible cultural heritage, is a representative of Bashu culture and a symbol of Sichuan's humanistic spirit [3][4]. In recent years, with the high attention of leaders at all levels in our province and the joint efforts of numerous literary and art workers, Sichuan Opera has been actively promoted into campus performances to spread traditional culture. However, the form is basically professional groups of professional actors performing into campus, although this method can let college students appreciate the exquisite Sichuan Opera art, its form and content are not prominent in practical significance, lack of innovation, and the dissemination effect is limited [5][6]. The Sichuan Opera "Little Radish Head" is a large-scale Sichuan Opera red opera work with a university as the main creator. The play is co-created and performed by teachers and students of the University of Electronic Science and Technology, using Sichuan Opera to tell the story of the Red Rock, inheriting the red gene, and is an organic combination and deep integration of history education and cultural heritage, and an excellent case of educating people through drama.

## 2 ARTISTIC FEATURES

Small but Refined, Revolutionary History Stories are Compelling Sichuan Opera "Little Radish Head" focuses on Song Zhenzhong, the youngest revolutionary martyr of New China, and unfolds around his diligent study in prison, wits and courage against the White House guard "Owl", passing messages for revolutionary friends, and ultimately sacrificing heroically. It shows Little Radish Head's desire for knowledge, adherence to justice, and yearning for a happy life. The first scene is the witty duel with the Owl, the second scene is the clever delivery of the Advancement Report, the third scene is the motherly love in prison, the fourth scene is the child's dream of freedom, the fifth scene is the spring thunder startling the mountain city, and the sixth scene is the hot blood dyeing the spring and autumn. Telling the story of the Red Rock with Sichuan Opera, the whole play presents the group portraits of countless revolutionaries with noble spiritual beliefs in the bloody "Zhazi Cave" and "White House", leading us to remember the revolutionary martyrs, sing the praises of heroes, and accept the baptism of the "Red Rock Spirit". It calls on teachers and students to tell the history of the revolution, comprehend the revolutionary beliefs and dedication of the revolutionaries, and draw strength from the extraordinary course of the revolution.

Large and Broad, the Spirit of Heroes Shakes People's Hearts The play vividly portrays the innocent and lovely character image of Little Radish Head, recreating the darkness before dawn, and using the unique "tragedy comedy performance" method of Sichuan Opera, it shocks the hearts of the audience in the era of peace. To make full use of the "textbook" of heroic deeds and the spirit of heroes, guiding teachers and students to inherit the red gene and build a spiritual pillar, the University of Electronic Science and Technology innovates the narrative method, performs vivid and vivid stories of heroes, guides the youth of the new era to inherit the red gene, plays the strong sound of patriotism, and leads students to remember heroes, admire heroes, defend heroes, learn from heroes, and firm up their ideals and beliefs. High participation, wide coverage, and co-performance by school teachers and students are the highlights of the play.

"Little Radish Head" allows every actor, student, and teacher to feel and convey the red spirit in an immersive atmosphere, completing an immersive revolutionary history education learning activity. Students participate in the performance process to understand and shape characters, transcend characters in a specific historical period and background, and experience the great spirit of patriotism, dedication, and fearlessness of sacrifice of the characters at that time. Through a large number of observations and creations, not only do non-professional students learn Sichuan Opera art, but they also comprehensively understand that memorable red history, deepen their understanding of the ideals and beliefs of national rejuvenation and people's liberation, and the audience watches the performance in an immersive atmosphere, feeling the great spirit of patriotism, dedication, and fearlessness of the revolutionary predecessors, and subtly implants moral education. The play is an organic combination and deep integration of revolutionary history education and cultural heritage. Sichuan Opera "Little Radish Head" tells "small stories" in the development process of the revolution, reflecting the "great spirit" of heroes. Teachers and students of the University of Electronic Science and Technology become storytellers of revolutionary history through participation in the creation and performance of Sichuan Opera "Little Radish Head".

Excellent and Innovative, Creative Results are Characteristic Strong The creation of the play fully utilizes the academic background of the University of Electronic Science and Technology, integrating "electronic information + intangible cultural heritage" technical advantages in sound, light, and electricity, achieving a deep integration of technology and art. Sichuan Opera "Little Radish Head" has made bold innovations from play creation, rehearsal to stage art, injecting the university's own advantages and specialties, allowing new technology and traditional opera to cross-integrate, bringing a "new" Sichuan Opera with electronic information characteristics. The project also breaks the current traditional opera stage design thinking from the perspective of stage art, combines the university's own professional advantages, integrates digital media technology, and uses new technology to complete the innovative opera stage. Through cross-integration, it attracts more audiences and enhances the social influence of the play, strengthening the artistic appeal of Sichuan Opera. For example, in the fourth scene "Childlike Freedom Dream", through light and shadow interaction + digital scenes, the White House scene in the play changes to a colorful dream lawn scene with the dreams of the protagonist Little Radish Head, and the actors also interact with digital "butterflies" in the virtual scene for immersive performance. The main creative team has carefully created a characteristic work that integrates a variety of art performances.

### 3 DEMONSTRATIVE LEADING VALUE

Sichuan Opera "Little Radish Head" is a specific practice and a typical excellent case of college cultural education and strengthening college students' ideological and political education. The story of Little Radish Head, as one of the classic stories of the "Red Rock" series, is more characteristic when created in Sichuan Opera art. It not only promotes the excellent traditional culture of China, follows the laws of art, but also has practical themes and educational significance, truly practicing drama into campus.

Excavate red classics to enhance students' identity recognition. By excavating and presenting red revolutionary typical characters, it enhances the students' sense of identity as "Chinese people". Teachers and students on campus watch the play, from identity recognition to a sense of belonging, forming cultural recognition, national pride, and thus playing a leading role in value pursuit.

Prosper campus culture and cultivate students' humanistic spirit. The creation and performance of the play have prospered campus culture, enriched the humanistic spirit and artistic atmosphere, enhanced the cohesion of the school, realized cultural heritage and dream transmission, and are more conducive to motivating students to be brave in taking responsibility, daring to innovate, and realizing the feelings of home and country.

Convey the spirit of the nation and strengthen students' sense of responsibility. It is a specific practice that runs through the entire process of educating people through traditional art forms such as Sichuan Opera, integrating college students' ideological and political education and cultural heritage innovation. The values of truth, goodness, beauty, and patriotism, the pursuit of ideals and beliefs, and fearlessness of sacrifice shown in the play are more easily accepted by actors and audiences and internalized into guidelines and motivations for their own progress.

### 4 CONCLUSION

Since the first performance of Sichuan Opera "Little Radish Head" in 2021, it has been performed online and offline for more than ten times, and more than ten mainstream media such as People's Daily and Guangming Daily have reported on it. From rehearsal to public performance, tens of thousands of people have watched.

### COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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# ANALYSIS OF THE FINANCIAL RISK OF BANK-ENTERPRISE DIRECT CONNECTION IN SCIENTIFIC RESEARCH INSTITUTIONS

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**Abstract:** Due to the continuous development of information network technology, the financial system informatization is becoming increasingly perfect. In order to improve the payment efficiency and reduce the offline process, bank-enterprise direct connection has become one of the main ways to improve the efficiency of financial work. This paper takes the financial risks under the bank-enterprise direct connection of scientific research institutions as the entry point to analyze the possible risks and hidden dangers in the bank-enterprise direct connection business. In addition, the actual situation of scientific research institutions was investigated and studied, and proposed coping methods for different risks, so as to better improve the efficiency of financial management under the condition of ensuring financial security, and realize the transformation and technical upgrading of financial management.

**Keywords:** Bank-enterprise direct connection; Public institution; Financial risk

## 1 RESEARCH BACKGROUND AND SIGNIFICANCE

### 1.1 Background

In view of the scientific research institutions, as an important national strategic scientific and technological force, have the characteristics of large capital liquidity and high demand of capital timeliness. In order to better serve the scientific research work, many scientific research institutions have tried to connect the financial system and the bank e-banking, in order to strengthen the construction of the financial system and improve the efficiency of fund payment. As a relatively mature reimbursement and payment system, the bank-enterprise direct connection system has received wide attention. Since its implementation, the direct bank-enterprise connection system has operated stably, which can effectively improve the efficiency of financial management, reduce the working pressure of financial personnel, and reduce the possibility of fraud, so the system has been highly praised in public institutions. But by the limitation of technology or human factors, this system is still potential risks, and as the institution bank business increasing, superior departments increasingly strict supervision, and part of the unit internal control system implementation problems exposed and the phenomenon of job fraud, are in improving unit fund management level is urgent. Although the launch of bank-enterprise direct connection has effectively solved the problem of fund payment and provided convenience for financial personnel and reimbursement personnel, there are still some risks that need to be paid attention to. As the bank-enterprise direct connection system as an emerging financial management mode, some units have not yet systematic training of relevant financial personnel leads to the financial personnel are not competent for their job responsibilities and can not fully meet the requirements of the unit for fund management. And because the bank-enterprise direct connection system is highly dependent on the financial information construction level in the early stage, the problem of software and hardware security of the system is also an important risk point. The bank-enterprise direct connection system is generally a fund management system established within the unit, which connects the financial system of the unit with the core system of the firm through the data interface, so it has high requirements for information network security. Whether using the public network or the dedicated line for interconnection, there may be a hidden security

### 1.2 Significance

Through the work practice and experience summary of the operation stage of the bank-enterprise direct connection of scientific research institutions, the responsibilities of the financial position under the bank-enterprise direct connection are improved, the level of financial work is improved, financial risks are avoided, and the purpose of improving the financial management ability of the unit is achieved. Through the analysis of the application results of the bank-enterprise direct connection system, the existing job responsibilities are optimized, the risks caused by the imperfect job responsibilities are avoided, the efficiency of capital payment is improved, and the efficient financial management level is achieved. Second, to further improve the upgrading and transformation of the online security system, to avoid risks from the front end of the bank-enterprise direct connection, let the risk forward, so as to improve the level of financial information construction [1]. Third, to a certain extent, standardize the standard operating procedures, unify the payment process and payment standards, effectively reduce the payment risk, and prevent the occurrence of job fraud.

## **2 CURRENT SITUATION AND ADVANTAGES OF BANK-ENTERPRISE DIRECT CONNECTION IN PUBLIC INSTITUTIONS**

### **2.1 The Status Quo**

Scientific research institutions in order to further strengthen payment management, to the maximum extent to avoid payment risk, area, business selection conditional unit first try, explore to establish with direct league, RPA robot technology whole process of payment regulation mode, can copy, can promote experience and practice, to point with surface, gradually, realizing a complete coverage of department funds security risk prevention and control system. Scientific research institutions actively connect with the opening bank, complete the construction of the front machine environment, network connection, bank account authorization and setting, clarify the division of labor among all parties, establish an effective tripartite communication mechanism, formulate general work guidelines, and complete the comprehensive online work.

### **2.2 Advantages**

The bank-enterprise direct connection business effectively improves the work efficiency of capital payment, reduces the burden of financial personnel, further strengthens the management of capital payment, and guarantees the safety of unit funds. However, because there is still room for further optimization of the system, there are still some deficiencies in risk management and prevention and control. This paper analyzes and combs the financial problems under the direct connection of scientific research institutions, so as to reduce risks and lay a solid foundation for the safe payment of funds.

## **3 FINANCIAL RISK ANALYSIS UNDER THE BANK-ENTERPRISE DIRECT CONNECTION**

The financial risk research under the direct connection of banks and enterprises should be based on the basis of the existing financial audit process, find out possible risk points, and put forward corresponding countermeasures for potential risk points, so as to avoid risks as far as possible, improve financial work efficiency and prevent the loss of state-owned assets.

### **3.1 Data Accuracy Risk of the Bank-Enterprise Direct Connection System**

The fact straight couplet data accuracy in the process of software automation is also one of the important risk points, due to the data in the reimbursement system, financial system, the third party software company and the bank net silver transmission process chain is long, involving more links, any link error is likely to affect the accuracy of the data, eventually lead to remittance error. Entry errors, processing errors, and transmission abnormalities are the common problems in the service execution process. These problems will lead to not only Payment error, but also regulatory risks and legal disputes [2]. In order to solve these problems, the unit can ensure the accuracy of the data by strengthening the data quality management and monitoring, improving the data entry process, introducing the verification mechanism, strengthening the data audit and establishing the data quality evaluation system. At the same time, the unit also needs to pay attention to the upgrade and optimization of the information system. By introducing advanced data processing tools and technologies, improve the system stability and data processing ability, and reduce the data error rate.

### **3.2 Compatibility and Security Risks of the Bank-Enterprise Direct Connection System**

Due to the different computer support systems, the hardware and software compatibility problems and the security problems of the information network are one of the causes of the uncontrollable risks of the bank-enterprise direct connection. The system incompatibility problem is mainly reflected in two aspects, the first is the contradiction between the system and the hardware equipment. Due to the large amount of data stored by the bank-enterprise direct connection system, the computing requirements for computers are higher. It is difficult for old equipment and ordinary desktop computers to bear such a large amount of computing, and the system will not operate normally and data loss will occur. The second is the contradiction between the system and the software. As a third-party platform, it directly links the Intranet of the bank with the Intranet of the bank. Once the Intranet is infected with the virus, it will not only affect the functions of other systems on the Internet of the company, but also may lead to problems in the bank port, causing irreparable economic losses and reputation losses. In addition, as the system needs to be constantly updated and transformed to adapt to the new demands and new environment, the bank-enterprise direct connection system needs to be continuously upgraded according to the financial platform and the bank port, which means that the follow-up maintenance of the bank-enterprise direct connection is also the top priority. When the systems can not be upgraded synchronously, it will not only lead to the financial data cannot be input and processed normally, but also appear security loopholes and hidden dangers, resulting in the increased risk of data leakage and tampering.

### **3.3 Financial Personnel Risks in the Process of Bank-Enterprise Direct Connection**

Under the development trend of financial informatization, the field of financial management is facing many new challenges. Among them, the uneven skill level of financial personnel has become a key factor restricting the improvement of financial management level. Financial informatization requires financial personnel to have solid professional skills and high professional quality, to master all kinds of financial software and information systems, to process data efficiently, and to quickly analyze and solve the problems in software execution. However, there are significant differences in the skill level of current financial personnel, and it is difficult for some personnel to adapt to the work needs under the information environment, and their professional quality and ability still need to be improved. At the same time, accounting information also requires financial personnel to have good communication and coordination skills [3]. In the information environment, the information exchange and cooperation between the financial department and banks and financial information development companies are closer. Financial personnel should be able to transmit information accurately and efficiently, and promote the cooperation within and outside the department. However, it is a pity that the performance of some financial personnel in this aspect is still insufficient, resulting in the bank-enterprise direct connection failed to play a practical role, but reduced the work efficiency and increased the financial risk. Some financial personnel are short of comprehension ability of policies and regulations, and lack of necessary risk awareness, leading to accurately identify the Potential financial risks, affect the financial management work.

## **4 POTENTIAL RISK RESPONSE STRATEGIES FOR PUBLIC INSTITUTIONS DIRECTLY CONNECTED WITH BANKS AND ENTERPRISES**

### **4.1 Strengthen the Daily Maintenance of Hardware and Software and Data Backup**

Institutions should long-term running server for regular maintenance and inspection, to use a long time, the old server in time to replace, strengthen the confidentiality of data transmission and network maintenance, network transmission data encryption, regularly upgrade firewall and repair vulnerabilities, install the latest antivirus software, enhance the system itself protection ability, resist and prevent network virus invasion, ensure the security of data transmission, prevent important data such as bank account leaks. Relevant financial data shall implement regular backup management system, designated special personnel to be responsible for daily maintenance of hardware and software and data backup, server data is automatically backed up every day and manually backup at least once a month to ensure double backup of important data [4].

### **4.2 Strengthen the System Security Guarantee and Data Protection**

System security and data protection are an important prerequisite for the operation of the accounting information system. The unit should put the system security at a strategic height and adopt comprehensive and multi-level defense strategies to resist the risk of network attacks and data leakage. This includes, but is not limited to, strengthening system security lines, implementing regular security audits and vulnerability repair plans, and building a robust data backup and disaster recovery system. The unit should also be equipped with the bank-enterprise direct connection machine and the bank special line to ensure that the special machine only serves the bank-enterprise direct connection system, so as to avoid one server connecting to multiple data sources at the same time, leading to the normal operation of the external network intervention system. In addition, sensitive information is strictly encrypted to ensure the absolute security of data during transmission and storage. Through this series of strengthening measures, the confidentiality, integrity and availability of financial information will be maintained to provide a solid guarantee for the sound operation of the financial management work of the unit.

### **4.3 Strengthen the Internal Control Construction**

Under the reimbursement mode of bank-enterprise direct connection of public institutions, the unit must optimize and improve the original internal control system, so as to adapt to the financial information work under the new situation, improve the effectiveness of internal control, and ensure the accuracy and security of financial data [5]. The traditional internal control construction is mainly based on the management of people, while the internal control under the direct connection of banks and enterprises needs to consider the problem of information network security, and needs to supervise the procedures. Scientific research institutions can standardize their business processes and formulate relevant management methods and operation processes, and fully cover the capital security risk prevention and control system, laying a solid foundation for the development of bank-enterprise direct connection business.

### **4.4 Enhance the Awareness of Financial Risk Prevention**

Public institutions may encounter financial risks in every link of the business process, in order to improve the overall risk prevention and control ability. The primary task is to enhance the overall understanding of financial risks and prevention awareness, to ensure that the relevant systems are effectively implemented. The unit shall enhance the risk identification ability of all financial personnel by means of cultural construction, system publicity and implementation, so as to deal with the possible risks and hidden dangers at any time [6]. Secondly, financial personnel need regular skills

training to enhance financial business ability. Since financial work involves a large number of data processing and information analysis, financial personnel are required to have solid professional skills and efficient working methods. Through systematic and professional training, financial personnel can skillfully apply financial software, fully understand the policies and regulations, improve work efficiency, clarify job responsibilities, reduce the risk of mistakes, avoid the loss of state-owned assets, and create more value for the unit while avoiding risks [7].

## 5 RESEARCH CONCLUSION

The preventive measures of different types of risks in the bank-enterprise direct connection process are also different. Therefore, corresponding measures must be formulated in combination with the system situation and the internal management system of the unit, so that financial personnel can cooperate closely with the bank-enterprise direct connection system to ensure the safety of funds. This paper is scientific research institutions argues direct risks in the process of analysis, and different risk problems, classification of existing risks and summary, put forward the corresponding avoid countermeasures, for other units after financial reimbursement information construction and promotion, in order to speed up the pace of financial reimbursement system information construction, for fact direct league system of extensive promotion work to provide certain reference significance.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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# ESG PRACTICES AND CORPORATE SUSTAINABILITY: EVALUATION, RISKS, AND ECONOMIC CONSEQUENCES

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**Abstract:** In recent years, more and more countries worldwide are paying attention to the risks and opportunities associated with sustainable development. This study examines the impact of ESG practices on firm sustainability, risk assessment, and economic value. Unlike traditional financial data, ESG metrics assess corporate sustainability from a non-financial perspective and have become key indicators for evaluating a firm's growth potential. This paper reviews the current state of ESG information disclosure and analyzes the effects of ESG practices on corporate risk, firm value, and capital costs. The findings indicate that higher ESG performance is generally positively correlated with a firm's market valuation and shareholder returns, while also helping to reduce information asymmetry and capital market risks. However, the existing ESG rating system lacks consistency and standardization, leading to significant discrepancies in the ratings provided by different agencies for the same firm.

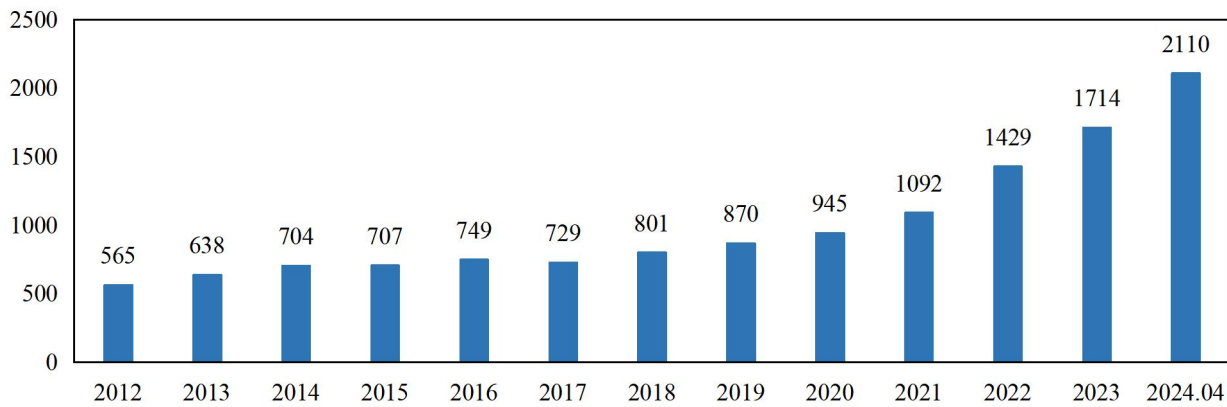
**Keywords:** ESG performance; Information disclosure; Corporate risk; Firm value

## 1 INTRODUCTION

Sustainable development has become an increasingly important global issue. With the United Nations' call for action on the Sustainable Development Goals (SDGs) and growing investor attention to non-financial information, more and more countries are measuring, disclosing, and managing the risks and opportunities related to sustainable development. Unlike traditional financial data, Environmental, Social, and Governance (ESG) criteria assess corporate sustainability from a non-financial perspective, focusing on the economic value of a company. ESG indicators are considered crucial for reflecting a company's ability to create value and implement effective strategies, gradually becoming key metrics for evaluating a company's development potential.

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In 2020, China set the goals of "carbon peak" and "carbon neutrality," highlighting its important role in global sustainable development. In response, various Chinese official departments have implemented multiple measures to meet sustainable development requirements, enacting or revising laws, regulations, and policies that require companies to take responsibility for environmental protection, social responsibility, and corporate governance. For instance, in 2002, China introduced the Corporate Governance Guidelines for Listed Companies, which were revised in 2018 to incorporate additional obligations related to environmental protection and social responsibility. Furthermore, in 2016, the Guiding Opinions on Building a Green Financial System were issued to encourage green investment and the development of a green financial system. In 2019, the "ESG Evaluation System for Listed Companies in China" was published to enhance public understanding of environmental protection, social responsibility, and corporate governance, emphasizing the concept of green development and the balancing of stakeholder interests. In 2023, the White Paper on ESG Practices in China was released to promote responsible investment and improve the ESG evaluation framework for Chinese companies. ESG focuses on environmental, social, and governance aspects, serving as both the core framework and intrinsic requirement for companies pursuing green development, as well as a key driver of high-quality economic growth.



**Figure 1** Number of Listed Companies Publishing ESG Reports (2012-2024.04)

As shown in Figure 1, this trend has been reflected in the capital markets and financial sectors, where ESG factors are increasingly integrated into business practices and corporate reporting. The growing scale of globally managed ESG assets further attests to this, with global ESG investments reaching \$30 trillion in 2019, exceeding \$35 trillion in 2020, and expected to surpass \$50 trillion by 2025. According to the Bloomberg Intelligence ESG Investment Outlook report, it is anticipated that ESG investments will account for one-third of global investment management funds in the future. In developed countries, an increasing number of institutional investors are incorporating ESG factors into their investment portfolios. Existing research has examined the impact of corporate participation in ESG activities from various perspectives, discussing both the positive and negative effects of ESG engagement on corporate development.

## 2 ESG INFORMATION DISCLOSURE

Existing research primarily employs ESG ratings to measure ESG performance. Various methods are utilized to assess ESG performance, with most scholars adopt third-party ESG ratings as the primary standard for evaluation [1,2]. Additionally, some researchers have adopted content analysis methods to develop quantitative indicators of ESG disclosure levels, providing more detailed insights [3]. The level of ESG development within a company influences both its corporate growth and capital market performance. At the corporate level, firstly, companies with higher ESG ratings are able to attract more long-term value-oriented and sustainability-focused investors due to their outstanding sustainability performance [4,5]. Secondly, these companies tend to have more favorable financing conditions and higher market valuations, which provide strong support for long-term business growth [6]. Furthermore, positive ESG performance can enhance a company's brand image and reputation, increasing customer satisfaction and employee loyalty, thus fostering more robust stakeholder relationships [7]. At the capital market level, the introduction of ESG ratings has also facilitated the reallocation of assets. An increasing number of investors are focusing on companies' sustainability performance, which has spurred the development of financial products such as green bonds and sustainability-linked bonds [8].

There is a notable divergence in ESG ratings provided by different agencies. The current ESG evaluation system faces significant challenges due to the lack of standardized criteria and methodologies. There is no standardized evaluation criteria for ESG ratings, and different agencies may disagree on the ESG ratings of the same company [9]. This divergence impacts both investor and corporate decision-making, diminishing the credibility and practical value of ESG ratings [1]. Pedersen et al. [10] argue that these discrepancies arise from substantial differences in the evaluation methods, weighting, and performance metrics used by different rating agencies. Berg et al. [2] further emphasize that the primary cause of rating inconsistencies lies in the subjectivity of the rating methodologies and the divergent interpretations of sustainability indicators. As a result, the discrepancies in ESG ratings not only have a direct impact on a company's financial performance and corporate value but also pose challenges to the company's long-term sustainability strategy and brand image [11,12].

## 3 ESG PERFORMANCE AND CORPORATE RISK

ESG disclosure can improve the information environment of companies. Gelb and Strawser [13] suggest that corporate social responsibility (CSR) activities provide more information and higher disclosure quality, leading to a better information environment. Cho et al. [14] examined the relationship between CSR performance and information asymmetry. By using various methods to measure CSR performance, such as information from business news, financial statements, and reports, they found a significant negative relationship between CSR performance and information asymmetry. Additionally, institutional ownership was found to influence this relationship. Similarly, Siew et al. [15] investigated the impact of ESG disclosure on market information asymmetry. ESG disclosure was found to negatively affect bid-ask spreads, and the presence of institutional investors reduces market information asymmetry. Thus, an enhanced information environment can lower corporate risk.

Engaging in ESG practices can enhance a company's reputation and help establish a positive public image. Lee [16] posits that ESG/CSR reflects trustworthiness, honesty, and ethical behavior, which benefits company development. High levels of CSR are typically associated with greater cultural depth and ethical constraints within a company. Kim et al. [17] explored various dimensions and components of CSR and found that companies more engaged in CSR activities are less likely to engage in earnings management and operational manipulation. Bear et al. [18] demonstrated that CSR practices enhance a company's reputation by communicating its social responsibility efforts to investors and other stakeholders, thereby conveying credibility and trust to the public. When faced with negative events or threats, a responsible corporate image and reputation capital can play a crucial role. Olofsson et al. [19] showed that moral capital protects companies that perform well in environmental and social responsibility, increasing their resilience to external uncertainties and extreme market conditions.

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ESG practices are a long-term strategy that can suppress the motivation to conceal negative news. Mahoney and Thorne [20] argue that companies actively engaged in ESG tend to view it as an essential part of their long-term strategic plans. CSR is not only a key component of sustainable societies but also an obligation for companies pursuing long-term development. Companies with better ESG performance tend to reduce insider trading activities, which, in the long term, harm stakeholders' interests. Studies confirm that integrating ESG factors into investment processes helps investors reduce potential risks. Similarly, Porter and Kramer [21] found that incorporating ESG factors into decision-making can improve investment returns and lower potential systemic risks. If companies engage in responsible investment for long-term development, management is more likely to provide transparent and reliable financial reporting, thus maintaining strong relationships with investors, consumers, and suppliers. In this context, companies with strong CSR values are more likely to focus on long-term returns, diminishing the motivation for management to conceal bad news.

## 4 ECONOMIC CONSEQUENCES

ESG performance has a significant impact on various economic outcomes, such as a company's cost of capital, corporate value, shareholder returns, employee satisfaction, and innovation capability. The cost of capital is a key determinant of a company's financial efficiency and stability, playing a critical role in its high-quality development.

### 4.1 ESG performance and cost of capital

The cost of capital is an important factor influencing long-term investment decisions, consisting of equity and debt costs. Since ESG is still evolving, research on the impact of ESG practices on the cost of capital remains in the exploratory stage. On the one hand, most studies show a negative relationship between a company's sustainability performance and both equity and debt costs [22,23]. La Rosa et al. [24] found that companies with strong CSR have higher credit ratings and can secure lower loan interest rates. Boubaker et al. [25] suggested that companies focusing on CSR are less likely to face financial distress. Christensen et al. [26] and Wong and Zhang [27] argued that negative ESG disclosures and discrepancies in ESG ratings impact debt financing costs. On the other hand, some studies reach opposite conclusions. Based on the over-investment and agency theory, these studies argue that ESG investments are often driven by management's desire to enhance its own image, rather than to reduce the company's debt costs [28,29]. Over-investment in CSR and sustainable development may be seen as a means of improving corporate image, with shareholders bearing the costs of management's actions [28]. Creditors consider the expenditures on sustainability, which results in companies with higher sustainability scores facing higher debt costs.

### 4.2 ESG performance and firm value

ESG performance reflects a company's potential for sustainable operations. It enhances the company's appeal to investors, reduces operational risks, and influences corporate valuation by strengthening brand reputation [30]. Firms with higher ESG ratings are able to reduce environmental risks, improve corporate social responsibility, and strengthen governance structures, thereby building a positive corporate image that attracts investors focused on long-term sustainability, thus boosting stock market value [31]. Companies with high ESG performance are often associated with higher stock prices and overall market capitalization, reflecting the market's positive evaluation of these companies and optimistic expectations of their future profitability [32]. The existing literature emphasizes the importance of prioritizing and improving ESG performance in modern corporate management and investment decisions, revealing both direct and indirect contributions to a company's long-term value creation.

## 5 CONCLUSION

The ESG evaluation system has become a crucial indicator of a company's sustainability capacity and has garnered increasing attention from investors, regulators, and corporate management. Companies can enhance their economic value and competitiveness through ESG practices, while also establishing a positive public image and improving resilience to external risks. However, the lack of consistency and standardization in ESG rating methodologies remains a significant challenge to its widespread application. There is a need to further refine and standardize ESG evaluation criteria to promote continuous progress in transparency, social responsibility, and green development, ultimately achieving higher-quality sustainable development.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

## FUNDING

This research was supported and funded by Philosophy and Social Science Fund of Guangdong (grant number GD24DWQYJ05), and Shenzhen Humanities and Social Sciences Key Research Bases.

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# THE TRAINING MODE OF INNOVATIVE AND ENTREPRENEURIAL TALENTS IN BUSINESS ADMINISTRATION FROM THE PERSPECTIVE OF INTEGRATION OF INDUSTRY AND EDUCATION

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**Abstract:** The integration of production and education is a matter of great concern to the CPC Central Committee. The CPC Central Committee pointed out that "integration of production and education and industry co-construction" is the key path to promote the development of higher education, and improving the education and training system, deepening the integration of production and education, and school-enterprise cooperation are the important contents of building an educational power. Entrepreneurship education is the closest higher education content to industry and commerce, and it is also an important foothold for the integration of industry and education. This paper focuses on the problems existing in the integration of production and education in the cultivation of innovative and entrepreneurial talents in business administration, and puts forward countermeasures and suggestions from three aspects: curriculum setting, platform establishment and assessment mechanism.

**Keywords:** Integration of production and education; Innovation and entrepreneurship; Talent cultivation; Business Administration

## 1 INTRODUCTION

Since the 21st century, the reform of entrepreneurship education has begun to emphasize the open education system, highlighting the characteristics as the guide and striving for diversified development. Entrepreneurship education began to show a diversified development trend of interdisciplinary, specialization, networking, ecologicalization and support system. China's entrepreneurship education reform draws lessons from the global successful experience, and combines the local characteristics of China to carry out theoretical and practical exploration. Scholars mainly pay attention to the goals, educational concepts, curriculum system, platform construction, model research and other issues of entrepreneurship education[1]. Around these problems, a group of domestic scholars believe that there are many thorny problems in domestic entrepreneurship education, and the reform of entrepreneurship education needs to be promoted urgently. For example, scholars believe that entrepreneurship education has not been integrated into the overall education system of the school, the resources of entrepreneurship education are relatively lacking, the theory of entrepreneurship education is lacking in systematic research, the teachers of entrepreneurship education are lacking, and the quality evaluation system of entrepreneurship education is not perfect.

In view of these problems, many scholars put forward to find a dual-track reform road of "professional" and "broad-spectrum" entrepreneurship education in combination with China's national conditions, and pay attention to the dual integration of "entrepreneurial skills" and "entrepreneurial theory" in educational objectives and concepts; Give consideration to "problem-oriented" and "discipline-oriented" in the design of entrepreneurship courses, and consider the special path of interaction between "official-driven" and "university demand" in the construction of entrepreneurship platform. China's entrepreneurship education has made outstanding achievements in the practice of entrepreneurship education reform, and has formed a number of distinctive entrepreneurship education models, including Tsinghua University's "Trinity, Integration of Three Innovations and Open Sharing" model, Nanjing University's comprehensive entrepreneurship model, and Zhejiang University's "X Major+Innovation Ability+Entrepreneurship Quality" model[2]. In recent years, the professional education of business administration is facing the digital impact. The change of new production mode and the emergence of new business model have brought great challenges to the entrepreneurship education of business administration major. Business administration entrepreneurship education is facing the problem of integration of production and education in intelligent manufacturing. It has become a research hotspot to integrate production and education in entrepreneurship education in line with the frontier practice of intelligent manufacturing, so as to enhance the scientific and practical nature of entrepreneurship courses and entrepreneurship knowledge. Accordingly, based on the background of intelligent manufacturing, this study focuses on the problems and solutions in the cultivation of innovative and entrepreneurial talents from the perspective of the integration of industry and education in business administration.

## 2 THE PROBLEMS OF CULTIVATING INNOVATIVE AND ENTREPRENEURIAL TALENTS IN BUSINESS ADMINISTRATION MAJOR

The national entrepreneurship education demonstration colleges have also carried out the exploration and practice of entrepreneurship education integrating production and education. For example, Tsinghua University introduced the concepts of "teacher+" and "curriculum+" into entrepreneurship education, created an "open and shared" education support platform for the whole society, and built an innovation and entrepreneurship ecosystem that broke through the "school wall"; Outside the school, the "China University Innovation and Entrepreneurship Education Alliance" composed of more than 180 universities and more than 60 enterprises and institutions was initiated and established for the first time in China, and the online education channel of China Entrepreneurship Institute was established for the first time in China, with 53 online courses and 802,700 users, so as to jointly promote the open sharing of high-quality resources of innovation and entrepreneurship education in the whole society[3]. It can be seen that the practice of entrepreneurship education with the integration of production and education is the basic trend of future development, but there are still many problems in the integration of production and education in entrepreneurship education, which will be described in detail below.

### **2.1 The Professional Courses are Separated from the Entrepreneurship Courses**

There is a separation between entrepreneurship courses and professional courses in business administration major. Entrepreneurship courses and professional courses for business administration majors are two independent systems. Entrepreneurship courses focus on cultivating students' entrepreneurial theoretical literacy and entrepreneurial ability training, including core courses such as entrepreneurial theory, business model and market research. Professional courses focus more on the specific theories and in-depth professional knowledge of the major, and give priority to theoretical teaching in the course, so that students have professional thinking and ability. However, the course does not focus on solving problems in the industry, and the theoretical content is far from the market environment, which makes it difficult to activate students' innovative and entrepreneurial thinking and limits the integration of production and education in business administration.

The Entrepreneurship Competition failed to play a role in promoting the integration of production and education. At present, many business management students are keen to participate in various entrepreneurial competitions to train innovative and entrepreneurial thinking. However, in the process of participating in the innovation and entrepreneurship competition, students pay more attention to whether they can win prizes and get grade point awards. When thinking about entrepreneurial projects, there are problems such as outdated ideology, ignorance of the market and new formats. Therefore, the entrepreneurial competition project also failed to achieve the goal of integration of production and education.

### **2.2 Lacks an Entrepreneurial Platform Embedded with the Idea of Integration of Production and Education**

The construction and operation of the entrepreneurial platform in colleges and universities are dominated by colleges and universities, failing to integrate into the market, and the understanding of the idea of integration of production and education is not in place. At present, most colleges and universities choose to establish business parks near the campus, which mainly provide office space and intellectual property support, which is seriously out of touch with the market environment. The entrepreneurship education of business administration students is still mainly theoretical education, which fails to integrate industrial practice well and makes no great contribution to the integration of production and education.

The practice of entrepreneurship platform lacks the link of the collision between entrepreneurship theory and professional knowledge, so it is difficult for business administration students to think about entrepreneurship in combination with the industrial environment, and it is impossible to solve the industry pain point problem in their major. Business administration majors carry out entrepreneurship practice education on the entrepreneurship training platform by purchasing software. These software-based entrepreneurship training platforms train students' entrepreneurial thinking by simulating entrepreneurial projects and environments. In professional software, students will be repeatedly exposed to the definitions and explanations of entrepreneurship, specialty and industry in textbooks, which further strengthens the separation of industry and education.

### **2.3 The Assessment Mechanism of Integration Needs to be Improved**

Entrepreneurship education was mainly concerned with the teaching effect and students' performance in the classroom, and the results were used to push back the training effect of innovation and entrepreneurship. The work of innovation and entrepreneurship education in schools is mainly carried out around the subject evaluation of the Ministry of Education, paying attention to the evaluation indicators of the education system. This result-oriented evaluation has a strong lag, which can not only measure students' ability in the practice process, but also correct the deviation in the education process in time. Results-oriented assessment will even blur students' concerns. They will pay too much attention to the results and despise the education process, so it is difficult to really spend time and energy to understand the market, and it is also impossible to achieve the integration of production and education.

The previous evaluation of entrepreneurship education focused on the inspection of teachers' teaching compliance, but lacked the assessment of whether teachers achieved the integration of production and education in the teaching process, and could not measure whether teachers stimulated students' creativity. The existing assessment of entrepreneurship courses is consistent with other courses, and it pays attention to the compliance of teachers' theoretical teaching. For

example, whether there is a teaching accident, whether the teaching syllabus is successfully completed, etc. The assessment index ignores the enlightenment of the integration of production and education to students' innovative and entrepreneurial ability in the teaching process. Therefore, it is urgent for colleges and universities to combine the multi-dimensional objectives of the integration of production and education (teaching, personnel training, industry development) to build a quality evaluation index system. Find the weak points in the implementation of the integration of production and education, and promote the practical quality of the integration of production and education.

### **3 THE PATH TO REALIZE THE INTEGRATION IN BUSINESS ADMINISTRATION MAJOR**

From the perspective of talent development, the path of educational activities is "teaching to adults" and the path of industrial activities is "working to adults". The two types of practical activities reach the same goal, which can promote people's free and all-round development and achieve the height, breadth and depth of people's lives[4]. Therefore, the integration of production and education in the cultivation of innovative and entrepreneurial talents can not only consider economic benefits and educational benefits, but also improve the quality of innovative and entrepreneurial talents and achieve the national strategic goal of high-quality development. This paper will start with the curriculum system, practice platform and evaluation system, firmly establish the knowledge chain, innovation chain and governance chain of the deep integration of production and education among the official department, schools and enterprises, solve the stubborn problems existing in the integration of production and education, and form the endogenous power and continuous resultant force of the deep integration of production and education.

#### **3.1 Developing the Curriculum System of Integration of Production and Education**

According to the orientation of "integration of production and education" and the characteristics of business administration, the curriculum system is reconstructed and optimized, and the whole chain of "training-breeding-incubation-start-up" is constructed, which breaks through the obstacles of entrepreneurship training, entrepreneurship competition and entrepreneurship operation, and realizes the characteristics of professional entrepreneurship education, such as the connection between professional chain and industrial chain, curriculum content and firm standard, and the connection between teaching process and commercialization process. Based on the professional characteristics of the integration of production and education entrepreneurship course, with the establishment and operation of related start-ups as the ultimate goal, students use professional knowledge and entrepreneurial related knowledge to simulate the establishment of enterprises and business operations, so as to achieve the double improvement of theoretical quality and entrepreneurial practice ability.

Under the background of the integration of production and education, the core curriculum system of interdisciplinary innovation and entrepreneurship with industrial project as the main line is established. The curriculum system of the integration of production and education requires the transformation of the traditional entrepreneurial curriculum system, the organization and management of the school from vertical to flat, from command transmission to democratic consultation, from internal closure to external opening; The education and teaching reform of enterprise education with the integration of production and education needs to open up the education chain, enterprise chain and innovation chain, break down the obstacles in the education curriculum system, update the entrepreneurial content and reform the entrepreneurial teaching methods, and explore the experimental teaching mode of combining reality with reality in entrepreneurial education. It is necessary to explore the new goal orientation and reform of talent training mode.

#### **3.2 Promoting the Transformation and Upgrading of the entrepreneurial Platform for the Integration**

The "production-education integration" entrepreneurial platform should cooperate with enterprises in depth, and be built by schools, official department and enterprises, which can ensure that the platform construction under the scene of production-education integration not only meets the needs of industrial characteristics, but also integrates industry and education. In order to build an entrepreneurial platform of "integration of production and education", it is necessary to efficiently pool school-enterprise resources, make full use of alumni resources and school-enterprise platforms, and activate dormant social networks. The major of business administration should try to integrate the resources among universities, cooperative enterprises and the related department, base on the characteristics of information and communication industry, and cooperate to build an entrepreneurial platform of "integration of production and education".

In the process of deepening cooperation with the official department and enterprises and promoting the integration of production and education, colleges and universities should strive to build the concept of common development of the three subjects, form the organic integration of "education-industry-system" and promote the effective connection between "professional knowledge-innovation demand-entrepreneurial talents"[5]. In action, it is necessary to give enterprises a dominant position in the cultivation of innovative and entrepreneurial talents, and deeply mobilize official department and enterprise resources to educate people based on the needs of intelligent manufacturing. In terms of platform construction, it is necessary to strengthen the practical function of the entrepreneurial platform, not only to regard the platform as a base for mutual contact and exchange, but also to complete the first trial operation of innovative entrepreneurial projects and an important carrier for incubating potential entrepreneurial projects. Realize the role of the "second classroom" of the entrepreneurial platform, and give play to the key advantages of the platform to connect theoretical knowledge and entrepreneurial practice.



### 3.3 Constructing the Maturity Evaluation System of the Integration of Production and Education

Innovation and entrepreneurship education under the concept of "integration of production and education" not only pays attention to the traditional educational effect, but also pays attention to the depth of cooperation and exchange among multi-subjects in the integration of production and education. In order to give full play to the enthusiasm of the multi-parties involved in the integration of production and education, the evaluation system needs to evaluate the participating parties in various ways to achieve a win-win situation of the integration of production and education and innovation and entrepreneurship education. Evaluation system is the baton of performance, and actively innovating evaluation system will play a role in promoting the integration of production and education. For colleges and universities, it is necessary to extend the evaluation subject from the inside of colleges and universities to students, universities, industries and related department, refine the evaluation indicators around the activity characteristics and goals of different subjects, and use quantitative analysis methods to give weight to the indicators to form an index system that can be quantitatively evaluated[6]. According to the hierarchical progressive relationship of the evaluation results, the maturity is graded. In practical application, the education mode of integration of production and education is classified and managed according to different maturity.

Specifically, under the mode of integration of production and education, the development of innovation, entrepreneurship and education system involves three systems: industry, education and related department. Different subjects and elements are embedded with each other, forming a process of continuous evolution of new quality. Both sides of integration will experience changes from passive acceptance to active exploration, shallow communication to deep cooperation, insufficient understanding to high understanding, loose disorder to tight structure, so the project can adopt maturity to evaluate the cooperation and integration of multi-subjects in integration of production and education. In order to ensure that the evaluation system can capture the key of the integration of production and education, the evaluation system needs to shift from the previous result-oriented to both process and result, from quantitative analysis to qualitative and quantitative evaluation.

## 4 CONCLUSION

From the perspective of educational development, the practice of enterprise education with the integration of production and education is the trend of future development. Higher education should actively meet this change and carry out the reform and upgrading of entrepreneurship education, education platform construction and education evaluation. Among them, innovation and entrepreneurship education should focus on becoming the "first move" of the new round of technological revolution and industrial transformation, comprehensively consider the new requirements of discipline construction and economic development, optimize the type structure of entrepreneurial talents, guide the entrepreneurial talents in colleges and universities to match the economic development trend, and create new innovative and entrepreneurial talents with the integration of production and education.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

## FUNDING

Nanjing University of Posts and Telecommunications Teaching Reform Research Project: " Research on the Training Mode of Innovative and Entrepreneurial Talents in Business Administration from the Perspective of Integration of Industry and Education " (Project No.: JG00123JX120).

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# EXPLORING TEACHING INNOVATIONS OF THE “DUAL-GUIDANCE MODEL” IN THE *PRINCIPLES OF MANAGEMENT* COURSE FOR UNDERGRADUATE UNIVERSITIES

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**Abstract:** The *Principles of Management* course is a foundational professional course designed for first-year undergraduate students in economics and management programs. However, several challenges persist in its teaching process: students often lack management experience and face difficulties in internalizing theoretical knowledge; it is challenging to sustain students' strong curiosity and motivation for learning throughout the course; the course materials emphasize theory over practice, diminishing the practical nature of management; and the assessment methods are overly focused on grades, embodying a “performance-only” evaluation system. To address these issues, the dual-guidance teaching model, informed by the self-determination theory and aimed at cultivating application-oriented talent, offers an effective reform strategy. This model addresses the aforementioned challenges by integrating teacher guidance with student autonomy, emphasizing practical engagement alongside theoretical learning. By implementing these reforms, the course not only resolves key pain points but also fosters innovative outcomes and equips students with skills for real-world application.

**Keywords:** *Principles of Management*; Dual-guidance model; Undergraduate universities; Teaching innovations

## 1 INTRODUCTION

In the traditional assessment of the *Principles of Management* course, there has been an overreliance on written exams and final grades as the primary means of evaluation. This single-dimensional approach focuses predominantly on theoretical knowledge, often neglecting the assessment of students' practical abilities, innovative thinking, and applied skills, which are essential for success in real-world scenarios [1]. Such an evaluation model fosters a test-oriented learning environment, encouraging students to prioritize short-term exam preparation over meaningful engagement with course content. Consequently, many students fail to internalize management concepts or develop the critical thinking and problem-solving skills necessary to connect classroom knowledge with practical applications, significantly hindering both their academic growth and professional readiness.

To address these limitations, educational reforms have introduced a diversified assessment system aimed at providing a more comprehensive evaluation of students' learning outcomes. This system combines traditional theoretical assessments with evaluations of classroom participation, teamwork on group projects, practical skills in operational tasks, and project management execution. By incorporating these additional dimensions, the assessment framework incentivizes students to actively engage in classroom discussions, which improves their communication and presentation abilities. Group projects and collaborative exercises help develop teamwork and leadership skills, while hands-on tasks and simulations bridge the gap between theoretical knowledge and practical application [2]. Moreover, internships with companies and employer feedback further enhance the assessment process by providing a real-world perspective on students' performance, highlighting their readiness to apply management principles in professional settings and identifying areas for improvement.

This diversified assessment model also addresses the common habit of neglecting consistent study during the semester and relying on last-minute cramming before exams. By distributing evaluations across multiple activities and emphasizing continuous engagement, the system encourages students to adopt sustained learning habits and develop a deeper understanding of course materials. Through active participation, regular assessments, and practical exposure, students are better equipped to internalize management theories and apply them effectively in complex, real-world scenarios [3]. Ultimately, this comprehensive approach not only enhances academic outcomes but also prepares students to thrive in dynamic professional environments, laying a strong foundation for cultivating application-oriented management professionals with practical expertise, innovative thinking, and the adaptability to meet modern workplace challenges.

## 2 MAJOR PROBLEMS IN TEACHING *PRINCIPLES OF MANAGEMENT*

### 2.1 Students' Lack of Management Experience and Difficulty in Internalizing Theoretical Knowledge

Most students taking the *Principles of Management* course lack practical management experience and have limited direct exposure to business operations and management practices. This lack of experience makes it challenging for students to grasp abstract management theories and understand their deeper meanings and applications. As a result,

students often resort to rote memorization of concepts without being able to connect them to real-world management activities, which hinders the effective internalization of theoretical knowledge into practical skills. This issue is particularly evident among freshmen, who, without practical exposure, struggle to comprehend and master the core principles and concepts of management. Their understanding remains superficial, making it difficult to appreciate the relevance and applicability of management theories in real-life scenarios.

## **2.2 Challenges in Sustaining Students’ Strong Desire for Knowledge**

While freshmen initially exhibit enthusiasm and curiosity about university-level learning, the complex and abstract nature of the *Principles of Management* course content often poses challenges. Without effective guidance, students may feel confused and frustrated, which can diminish their interest and motivation as the course progresses. Furthermore, many students lack effective strategies for studying management principles, leading to a sense of difficulty and discouragement when faced with complex theoretical concepts. This highlights the urgent need for teaching approaches that maintain students' interest and curiosity throughout the course, providing clear learning pathways and strategies to help them navigate the subject effectively.

## **2.3 Emphasis on Theory Over Practice, Undermining the Practical Nature of Management**

Although the *Principles of Management* course aims to develop students’ theoretical knowledge and practical abilities, the current teaching approach often prioritizes theoretical explanations while neglecting the importance of practical learning. This theoretical bias results in students having limited exposure to the practical applications of management concepts, making it difficult for them to understand how these theories operate in real-world management contexts. Additionally, existing textbooks and case studies often focus heavily on theoretical explanations and fail to integrate current management practices. This disconnect hinders students' ability to relate their learning to actual management challenges, ultimately affecting their development of practical skills.

## **2.4 Single-Dimensional Assessment Methods Creating a “Cramming Before Exams” Mentality**

Traditional assessment methods, which primarily rely on final exam results, foster an overemphasis on grades. This “grade-only” approach encourages students to adopt unhealthy learning habits, such as cramming before exams while neglecting regular study and comprehensive understanding. Many students believe that last-minute exam preparation is sufficient to achieve satisfactory grades, leading to a lack of consistent effort and deep engagement with the course material. This not only impedes their long-term retention and understanding of management principles but also fails to develop essential skills such as independent learning and problem-solving. Reforming assessment methods to encourage continuous learning and proper study habits is therefore crucial for enhancing the overall quality of teaching and fostering better learning outcomes.

# **3 DUAL-GUIDANCE TEACHING AND ITS THEORETICAL FOUNDATIONS**

## **3.1 Theoretical Foundations of the Dual-Guidance Teaching Model and Intrinsic Motivation**

The theoretical foundation of the dual-guidance teaching model is primarily derived from Self-Determination Theory (SDT) and Constructivist Learning Theory [4-5]. SDT emphasizes the importance of supporting intrinsic motivation, where students engage in learning activities because they perceive them as valuable, meaningful, or enjoyable [6]. In the dual-guidance model, the teacher's guiding role and the student's active role are combined to drive the teaching process collaboratively.

This model encourages students to establish their learning paths based on their interests and goals under the teacher’s guidance, thereby fostering intrinsic motivation. Teachers support students' autonomous learning by providing abundant learning resources, creating meaningful learning experiences, and offering timely feedback. This approach facilitates the transition from extrinsic motivation to intrinsic motivation, enhancing the perceived value of learning activities and strengthening students' self-efficacy and self-determination. Such a transformation is crucial for lifelong learning and career development.

## **3.2 Relationship Between the Dual-Guidance Teaching Model and Autonomous Learning**

The relationship between the dual-guidance teaching model and autonomous learning lies in its ability to promote active participation and self-motivation among students. Autonomous learning emphasizes students' self-drive and self-regulation during the learning process, which aligns with the dual-guidance model’s philosophy of collaborative teaching design and implementation by teachers and students.

In this model, students are no longer passive recipients of knowledge; they become co-constructors of learning through group discussions, collaborative practices, and other activities. The dual-guidance model offers diverse learning resources and activities tailored to different learning styles and needs, thereby enhancing students' capacity for

autonomous learning. Students are also provided with opportunities for self-reflection and self-assessment, which are critical for developing metacognitive skills and autonomous learning abilities.

### 3.3 Practical Advantages of the Dual-Guidance Teaching Model

The dual-guidance teaching model demonstrates significant advantages in building efficient and effective classrooms by fostering collaboration and interaction between teachers and students. This model better meets diverse learner needs while enhancing classroom efficiency and teaching quality. For example, the “dual-guidance and dual-direction” teaching approach integrates teacher-student collaboration in class design and implementation, aligning with the philosophy of “guided learning and practice, with learning and practice combined.” This method not only enriches students' learning experiences but also expands opportunities for teachers' professional development, equipping them with adaptive skills for modern educational challenges.

The implementation of the dual-guidance model transforms traditional learning into a dynamic and interactive process. With teacher guidance, students actively engage in learning, boosting motivation and fostering deeper involvement. This engagement cultivates a sense of ownership over their educational journey, transitioning students from passive knowledge recipients to active contributors. The model's emphasis on real-time feedback and continuous assessment enables teachers to adjust instructional strategies promptly, ensuring the learning process remains student-centered, responsive, and effective. This adaptability addresses diverse student needs, creating a more inclusive and impactful learning environment.

Additionally, the dual-guidance model encourages self-directed learning through activities such as independent research, peer evaluation, and reflective journaling. These elements not only enhance academic outcomes but also instill lifelong learning habits, fostering students' ability to assess their strengths and identify areas for growth. The emphasis on autonomy and reflection equips students with metacognitive skills essential for personal and professional development. By engaging in hands-on tasks, students gain practical experience that bridges theoretical concepts with real-world applications, enhancing critical thinking and problem-solving abilities. This process nurtures innovators and leaders capable of adapting to complex scenarios and devising creative solutions.

Ultimately, the dual-guidance teaching model redefines classroom dynamics by blending theoretical rigor with practical application, promoting both academic excellence and skill development. Its successful implementation relies on the collective efforts of teachers, students, and educational institutions, ensuring the model's potential is fully realized. Through this collaborative approach, the dual-guidance model contributes to the development of learners who are not only academically capable but also ready to thrive in diverse professional environments.

## 4 TEACHING IMPROVEMENT STRATEGIES BASED ON THE DUAL-GUIDANCE MODEL

### 4.1 Shifting from Teacher-Centered to Teacher-Student Dual-Guidance: Empowering Students as Owners of Learning

In traditional teaching, the teacher acts as the sole authority, and students acquire knowledge primarily through passive listening. However, with the rapid development of the internet and advancements in corporate brand management practices, this knowledge-transmission model is no longer suitable for cultivating innovative talent. The dual-guidance model, where teachers guide and students take the lead, enables a more dynamic learning process. Teachers pose thought-provoking questions following theoretical explanations, encouraging students to use online resources, analyze cases, deliver presentations, engage in discussions, and summarize insights to acquire knowledge independently. By participating actively in the learning process, students develop problem-solving abilities and enhance their motivation for learning through critical thinking and inquiry.

### 4.2 Transitioning from Monologue Lectures to an Integration of Industry, Academia, and Research: Empowering Students as Educators and Innovators

Traditional teaching methods often rely on lecture-based monologues, where the teacher is the sole source of information. This approach is frequently criticized for being monotonous and uninspiring, limiting students' engagement and resulting in knowledge acquisition that is heavily theoretical and narrow in scope. Under the dual-guidance approach, blended learning combines online course development, student-led case studies, expert-led workshops, classroom simulations, field investigations, and management project formulation. This integration of industry, academia, and research helps students simultaneously learn theory and explore practical management issues. Students analyze and address real-world problems, consolidating their knowledge into theoretical insights through research outputs. This process develops their ability to apply theories, analyze challenges, and derive solutions, ultimately enabling them to construct innovative management frameworks.

### 4.3 Shifting from Theory-Centric to Student-Centric Learning: Empowering Students as Corporate Leaders

The curriculum design of *Principles of Management* traditionally relies heavily on classic textbooks, emphasizing theoretical transmission. However, the introduction of a “strategic planning” module transforms students into corporate managers tasked with devising annual plans for companies. This approach not only strengthens students' understanding and application of management theories but also deepens their reflection on and comprehension of corporate needs. It

enables students to explore management strategies from a practical perspective, providing them with a stronger foundation for future career planning and development.

#### 4.4 Moving from Exam-Based to Practice-Based Assessment: Empowering Students as Owners of Achievements

Traditional assessments in the *Principles of Management* course have overly relied on written exams and final grades, often neglecting students' practical abilities, innovative thinking, and applied skills. Such a narrow focus fosters a test-oriented learning culture, impeding students from effectively applying their knowledge in real-world scenarios. To address this issue, the dual-guidance model proposes a diversified assessment system designed to comprehensively evaluate students' learning outcomes.

This system includes traditional theoretical assessments as well as evaluations of classroom participation, teamwork, practical skills, and project execution. By incorporating these diverse dimensions, students are motivated to actively engage in discussions, enhancing their communication and presentation skills. Team projects nurture collaboration and leadership, while hands-on activities strengthen their project management and problem-solving abilities. Additionally, internships and feedback from employers provide an authentic assessment of students' performance in workplace settings.

This multi-faceted evaluation approach encourages students to move away from last-minute cramming and adopt continuous learning and deep understanding. It lays a solid foundation for cultivating management professionals with practical capabilities and innovative thinking, equipping them to meet the demands of dynamic and complex business environments.

#### COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

#### FUNDING

The project was supported by Nanjing University of Posts and Telecommunications Teaching Reform Research Project: "Blended Teaching Reform Research on *Principles of Management* Based on the 'Dual-Guidance' Approach" (Project No.: JG00123JX115).

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# AN EMPIRICAL STUDY ON THE COORDINATED DEVELOPMENT OF AGRICULTURE-RELATED CREDIT IN BZ CITY RURAL COMMERCIAL BANK THROUGH THE "BANK-INSURANCE" LINKAGE CREDIT ENHANCEMENT MODEL

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**Abstract:** This paper takes the agriculture-related credit business of BZ City Rural Commercial Bank as the main research object, starting from the supply side of agriculture-related credit, relying on the "China Insurance Yearbook", "BZ City Rural Commercial Bank Financial Annual Report" and "BZ City Rural Statistical Yearbook" Based on the data support, select the relevant data representing the agricultural insurance premium income, agricultural production value, agricultural credit balance of BZ City Rural Commercial Banks from 2012 to 2021 as indicators, establish a VAR model, and perform pulse effect analysis variance decomposition analysis on this basis. This explores the synergistic relationship between agricultural insurance, agricultural credit and agricultural development. The empirical results show that: (1) agricultural insurance has a positive role in promoting agriculture-related credit of agricultural commercial banks in BZ city; (2) agriculture-related credit of agricultural commercial banks in BZ city has no obvious effect on promoting agricultural insurance, and the synergistic effect between the two remains to be seen. Strengthen; (3) Agricultural insurance and agricultural credit of BZ City Rural Commercial Bank have a strong pulling effect on agricultural development; finally, based on the results of empirical analysis, this paper starts from the construction of a perfect legal system, a perfect guarantee mechanism, and a perfect development. The three aspects of the mechanism summarize the policy suggestions for the coordinated development of agricultural insurance and agricultural credit in BZ City Rural Commercial Bank.

**Keywords:** Agricultural insurance; Agricultural credit; Coordinated development

## 1 INTRODUCTION

China is entering the "14th Five-Year Plan" development period. Under the absolute indicators of carbon peak and the long-term vision of carbon neutrality, China's agricultural industrial structure is undergoing tremendous changes. The Central No. 1 Document of 2021 proposes to comprehensively promote rural revitalization and accelerate the modernization of agriculture and rural areas[1]. It is widely known that finance is the core of modern economy, and the smooth implementation of the rural revitalization strategy is inseparable from the support of the financial industry. The development of agriculture and rural areas is even more dependent on the support of rural finance. How to make full use of rural financial tools to help solve the "three rural" issues, lay a foundation for the development of agriculture and rural areas, and promote the stable and long-term implementation of the rural revitalization strategy is a topic of common concern in the financial industry. From 2013 to 2021, the Central No. 1 Document has proposed to increase credit support for agricultural operators, strengthen the coordination and cooperation between agricultural credit and agricultural insurance, and give full play to the role of agricultural insurance in supporting agriculture and benefiting farmers[1]. The Guiding Opinions on Accelerating the High-Quality Development of Agricultural Insurance issued in 2019 pointed out that "establish and improve the rural credit system, improve the credit rating of farmers through the credit enhancement function of agricultural insurance, and alleviate the problems of difficult and expensive loans for farmers[2]." The Agricultural Insurance Regulations also explicitly propose to strengthen support for agricultural insurance and credit, and to support the development of rural areas through specific measures such as promoting the development of agricultural insurance organizations[3]. There are cooperative advantages between agricultural insurance and agricultural credit in terms of service objects, information resources, and risk control. The cooperation and development of the two has always been highly valued by the central leadership and relevant scholars. The Central No. 1 Document of 2009 was the first to officially explore the cooperation model between agricultural insurance and agricultural credit; the Central No. 1 Document of 2016 proposed to establish a silver-insurance interaction mechanism combining agricultural credit and agricultural insurance, develop "insurance finance," and provide policy support for the interaction between agricultural insurance and agricultural credit. Since then, the Central No. 1 Document for many consecutive years has proposed to support the development of silver-insurance interaction models in rural areas, emphasizing the role of agricultural insurance in reducing agricultural risks and improving the accessibility of agricultural credit to farmers. Currently, China's rural financial system, after years of improvement and development, has seen significant growth in the market size of agricultural credit and agricultural insurance in some pilot areas, and the service capacity of rural financial services has been significantly enhanced, forming its own characteristic

development model. However, there are still many problems in the cooperative development of the two, so this article takes the rural commercial bank of BZ City as a breakthrough point to deeply study the synergistic effect between agricultural credit and agricultural insurance of the bank, find the problems existing in their development, and make reference suggestions for promoting the practice of the development of agricultural insurance and agricultural credit in various places of our country.

## **2 LITERATURE REVIEW**

### **2.1 Summary of Relevant Research**

The research on agricultural insurance in China mostly began after the recovery and development of the insurance industry in our country. The insurance industry developed rapidly in the 19th century, and agricultural insurance also developed with the prosperity of the industry. Zhang Ping[4] believed in 1985 that agricultural insurance played an important role in promoting the development of the rural commodity economy. For crop insurance, appropriately reducing the insurance amount is conducive to business expansion and increasing the insured area. In 2012, Tuo Guo-zhu[5] proposed that agricultural insurance had become an important tool in the "Three Rural Issues" work, making great contributions to the rural financial reform. With the continuous development of agricultural insurance, the current agricultural insurance, in addition to playing the basic role of guarantee, needs to serve the comprehensive implementation of the rural revitalization strategy and the "14th Five-Year Plan". Jin Xin (2021)[6] believes that promoting the high-quality development of agricultural insurance can better serve the "14th Five-Year Plan". It is necessary to innovate agricultural insurance from four aspects: product, technology, model, and mechanism, so that it can better assist the rural revitalization strategy and serve the "14th Five-Year Plan". Long Wenjun[7] proposed that agricultural insurance should better highlight its policy-oriented function during the "14th Five-Year Plan" period, and agricultural insurance will be an important means to solve the difficulty of obtaining loans. In addition, with the continuous development of science and technology, it is imperative to use science and technology to assist agricultural insurance. Liu Xiaoming, Chen Qiankun, and Liu Xiaoling (2021)[8] proposed to introduce scientific and technological means into agricultural insurance, believing that the application of insurance technology can reduce information asymmetry and improve the efficiency of agricultural insurance, and reduce operating efficiency.

The synergistic effect of agricultural credit and agricultural insurance has been studied since the end of the last century. Wen Yuanda[7] proposed in 1988 that agricultural insurance and agricultural credit should be developed uniformly. The role of credit is to support the development of production and the expansion of circulation, while the role of insurance is to ensure that the production and circulation process is not interrupted due to some accidental losses. Both have different functions and are interrelated, jointly promoting economic development. In 2006, Li Yuxi[9] proposed that the reason why credit support for the agricultural system cannot be formed is the lack of a policy-based agricultural insurance system as a guarantee, and China should learn from Japan's agricultural insurance model to establish a policy-based insurance system. In addition, Feng Qingshui and Huang Yanning[10] found through an efficiency model in 2015 that the degree and direction of the influence of external factors on the cooperation efficiency of banks and insurance companies are different, and it should be further explored to establish formal cooperation mechanisms between the two. Pan Xiaojun (2019)[11] believes that the "agricultural insurance + rural credit" interaction model is conducive to the development of rural areas and beneficial to rural poverty alleviation and revitalization. Peng Xiaobing and Zhu Jiang (2019)[12] jointly believe that compared with the traditional model, this interaction model can form a cooperative game, increasing the common interests of farmers, insurance companies, and credit companies, and also proposed that the authority should provide preferential policies for insurance companies and credit companies. Lin Kaixuan (2020)[13] believes that the banking and insurance linkage mechanism can effectively resolve the contradictions between finance and agricultural development, and proposes that the authority can guide and promote the linkage of banking and insurance to promote the cooperative development of agricultural insurance and rural credit.

### **2.2 Review of Literature**

Firstly, through the analysis of literature, it is found that experts and scholars mostly use real economic data for econometric calculations, draw their own conclusions, and put forward policy suggestions to promote the coordinated development of agricultural insurance and agricultural credit. Existing research mainly analyzes the relationship between agricultural insurance and agricultural credit in terms of total volume, directly applying the overall sample data of the country as a whole. However, the regional differences in the development of agriculture in our country are relatively large, which lacks practical guiding significance for the coordinated development of regional agricultural insurance and agricultural credit. Secondly, most existing literature starts from the demand side of agricultural funds, focusing on how to disperse or reduce the risks of agricultural production and operation, ensure stable and increased income for the main bodies involved in agriculture, and thus ensure that agricultural credit funds can be repaid on time. However, there is a lack of attention and exploration from the supply side of agricultural credit.

Based on the above two points, this paper selects the rural and commercial bank of BZ City as the research object through the method of empirical research, deeply studies the role and effect of the synergy between agricultural credit and agricultural insurance of the bank, analyzes the interaction mechanism between agricultural credit, agricultural insurance, and agricultural development of the rural and commercial bank of BZ City, and proposes the existing

problems and solutions in the current synergy development of agricultural credit and agricultural insurance of the bank based on the research results of the above text.

### 3 EMPIRICAL MODELS AND DATA SOURCES

#### 3.1 Model Setting

Based on the existing research and corresponding theories, this paper empirically analyzes the synergistic effect between agricultural insurance and agriculture-related credit of BZ Rural Commercial Bank by selecting Eviews software to make a model.

In order to study the synergistic relationship between agricultural premium income, gross agricultural production value and agricultural credit balance, this paper uses a vector autoregressive model (VAR model) to establish a lagged VAR model of  $X_t$  and  $Y_t$  by assuming the existence of a relationship between  $X_t$  and  $Y_t$ .

$$x_t = a + \alpha X_{t-1} + \beta_{t-1} + \ell \tag{1}$$

$$Y_t = b + \gamma X_{t-1} + \delta Y_{t-1} + \ell_1 \tag{2}$$

Combine formulas 1 and 2 to obtain:

$$Y_t = C + R_t Y_{t-1} + \ell_t \tag{3}$$

On this basis, we can obtain the VAR model of N variables with a lag of K order:

$$Y_t = C + R_1 Y_{t-1} + R_2 Y_{t-2} + \dots + R_k Y_{t-k} + \ell_t \tag{4}$$

From equation 4, then:

$$Lny_t = \alpha_1 \ln y_{t-1} + \dots + \alpha_p \ln y_{t-p} + \beta_1 \ln x_{t-1} + \beta_p \ln x_{t-p} + c \tag{5}$$

$Y_t$  represents an  $N \times 1$  order time series column vector,  $C$  represents an  $N \times 1$  order constant term column vector, denotes an  $N \times N$  order parameter matrix,  $\alpha$  and  $\beta$  are the regression coefficients of endogenous variables, and the parameters of exogenous variables are to be estimated.  $T$  denotes time, and  $P$  represents the optimal lag order.

#### 3.2 Variable Selection and Data Sources

##### 3.2.1 Variable selection

This article selects the agricultural credit balance index of the rural and commercial banks in BZ City from 2012 to 2021 to reflect the development level of agricultural credit in BZ City's rural and commercial banks; the agricultural insurance premium income index reflects the development degree of agricultural insurance in BZ City; the gross agricultural product index reflects the development level of rural areas in BZ City. Agricultural insurance premium income is represented by API, GAP represents the gross agricultural product, and ACB represents the agricultural credit balance.

##### 3.2.2 Data source

This article selects the time series from 2012 to October 2021 as the analysis object, where the premium income data of agricultural insurance is from the "China Insurance Yearbook", agricultural credit data is from the annual financial statistics report of "BZ City Rural Commercial Bank Co., Ltd.", and the gross value of agricultural production data is from the "BZ City Rural Statistics Yearbook" of the BZ City Statistics Bureau.

##### 3.2.3 Research framework diagram (Figure 1)

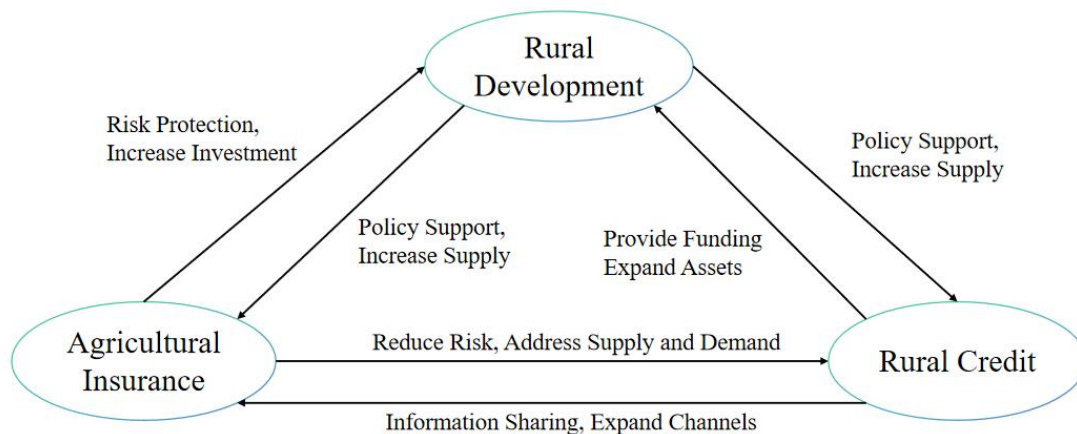


Figure 1 Diagram of the Research Framework



## 4 ANALYSIS AND TESTING

### 4.1 Descriptive Analysis

Through descriptive statistics on agricultural premium income, agricultural GDP and agricultural credit balance data from 2012 to 2021, the following results are obtained (Table 1):

**Table 1** Descriptive Analysis

	Mean	22.97685	22.88055	17.61097
Median	23.24096	22.93069	17.34187	
Maximum	23.58261	22.98177	18.99729	
Minimum	22.14577	22.6919	16.78362	
Std. Dev.	0.658096	0.123615	0.94582	
Observations	5	5	5	

### 4.2 Unit Root Test

To eliminate the impact of heteroscedasticity on time series, this paper takes the natural logarithm of three time series: agricultural insurance premium income, total agricultural output value, and agricultural credit balance, and represents the new sequences after taking the natural logarithm as LNAPI, LNGAP, and LNACB, respectively. To mitigate the "spurious regression" problem formed by directly regressing on non-stationary time series, the ADF test method is generally used, and the test results are shown in the table below (Table 2).

**Table 2** ADF Test Analysis

Variable	C,T,L	ADF	1% Critical Value	5%Critical Value	10%Critical Value	P-value	Conclusion
lnGAP	(c,t,0)	-0.903671	-10.66657	-6.482609	-4.819859	0.8232	Unstable
LNAPI	(c,t,0)	-0.914683	-6.423670	-3.984991	-3.120686	0.6623	Unstable
LNACB	(c,0,0)	0.428956	-10.66657	-6.482609	-4.819859	0.9591	Unstable
DLNAPI	(c,0,0)	-7.58643	-8.033476	-4.541245	-3.380555	0.0121	Stable
DLNACB	(c,t,0)	-2.133763	-3.563915	-2.157408	-1.610763	0.0423	Stable
DLNGAP	(c,0,0)	-0.804808	-3.563915	-2.157408	-1.610463	0.0289	Stable

Note: In the (C, T, L) test form, C represents the intercept term, T represents the trend term, K represents the selected lag order, and D represents the first-order difference.

From the inspection results, the ADF values of the variables LNAPI, LNGAP, and LNACB are all greater than 1% of their critical values, and the P-values are all greater than 0.1, indicating that the null hypothesis is accepted, there are unit roots, and they belong to non-stationary sequences. After first-order differencing, the ADF values of the first-order difference sequences DLNAPI, DLNGAP, and DLNACB for each variable are all less than 10% of the critical values, and the P-values are all less than 0.1, rejecting the null hypothesis, indicating that there are no unit roots, i.e., each variable is a first-order difference sequence of a stationary sequence.

## 5 EMPIRICAL ANALYSIS AND CONCLUSION

### 5.1 Vector Autoregression (VAR) Model and Its Dynamic Analysis

This article studies the dynamic impact of relevant time series and random disturbances on the variable system using vector autoregression models and further explains the impact of these influences on economic variables. It also analyzes

the relationships between agricultural insurance premium income, gross agricultural production, and agricultural credit balance in the three pairs. Before establishing the VAR model, it is first necessary to select the optimal lag order. According to the information criterion, different lag orders can be selected as variables, resulting in:

### 5.1.1 Agricultural insurance premium income and gross agricultural production value VAR model

**Table 3** Agricultural Insurance Premium Income and Gross Agricultural Production Value VAR Model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-13.24924	NA	0.155546	3.812311	3.832171	3.678361
1	7.975263	26.53063*	0.002259*	-0.493816	-0.434235*	-0.89567
2	12.03026	3.041249	0.003181	-0.507566*	-0.40826	-1.177317*

From the table above (Table 3), it is known that the lag order of the model is 2. The results of the VAR model are as follows (Table 4):

**Table 4** The Results of the VAR Model

	LNGAP	LNAPI
LNGAP(-1)	0.455848 -0.50745 [ 0.89832]	-2.3221 -3.01349 [-0.77057]
LNGAP(-2)	0.3233 -0.48451 [ 0.66727]	3.726435 -2.87731 [ 1.29511]
LNAPI(-1)	0.08914 -0.08413 [ 1.05951]	-0.88666 -0.49963 [-1.77465]
LNAPI(-2)	0.013052 -0.0812 [ 0.16074]	0.230346 -0.48219 [ 0.47770]
C	3.629811 -1.92043 [ 1.89010]	-2.3392 -11.4046 [-0.20511]

From the VAR model, we can obtain 2 model equations representing the relationship between them

$$\text{LNAPI} = 0.46\text{LNGAP}(-1) + 0.32\text{LNGAP}(-2) + 0.09\text{LNAPI}(-1) + 0.01\text{LNAPI}(-2) + 3.62 \quad (6)$$

From the self-impact response of the API, agricultural insurance itself has strong sustainability.

From the response of the impact of API on GAP, the agricultural insurance premium income has a negative impact on the agricultural GDP lagging in the second stage, while it has a positive impact on the agricultural insurance lagging in the first stage, indicating that the driving role of agricultural insurance in agricultural development is gradually enhancing.

$$\text{LNGAP} = -2.32\text{LNGAP}(-1) + 3.73\text{LNGAP}(-2) - 0.87\text{LNAPI}(-1) + 0.23\text{LNAPI}(-2) - 2.33 \quad (7)$$

From the impact of GAP on the API, the driving effect of agricultural development on agricultural insurance is gradually weakening. From the GAP's response to its own impact, it can be seen that agricultural development has a strong sustainability.

### 5.1.2 Agricultural insurance premium income and agricultural credit balance VAR model

**Table 5** Agricultural Insurance Premium Income and Agricultural Credit Balance VAR Model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-8.94071	NA	0.052974	2.735177	2.755038	2.601227
1	14.58645	29.40895*	0.000433	-2.146613	-2.087032	-2.54846
2	20.44087	4.390818	0.000388*	-2.610219*	-2.510917*	-3.279970*

The lag order of the model is 2 as shown in the table above (Table 5).  
 VAR model results are shown as follows (Table 6):

**Table 6** VAR Model Results

	LNAPI	LNACB
LNAPI(-1)	-0.383711 -0.44015 [-0.87178]	-0.02219 -0.03127 [-0.70958]
LNAPI(-2)	0.323901 -0.42445 [ 0.76311]	-0.016138 -0.03016 [-0.53513]
LNACB(-1)	-15.17672 -6.74616 [-2.24968]	1.622883 -0.47932 [ 3.38583]
LNACB(-2)	14.16415 -5.69201 [ 2.48843]	-0.637105 -0.40442 [-1.57536]
C	43.66467 -31.0994 [ 1.40404]	0.986806 -2.20962 [ 0.44660]

From the VAR model, the following model equation for the relationship between agricultural credit and agricultural insurance can be obtained:

$$LNAPI = -0.38LNAPI(-1) + 0.32LNAPI(-2) - 15.17LNACB(-1) + 14.16LNACB(-2) + 43.66 \tag{8}$$

The response to the impact of API on ACB shows that agricultural insurance premium income has a positive effect on the agricultural insurance premium income of the two lagging periods, indicating that agricultural insurance has a certain sustainability. The response to the shock of API on ACB shows that agricultural insurance premium income has a positive effect on the agricultural credit balance of a certain period of time, indicating that agricultural insurance has a certain driving effect on agricultural credit.

$$LNACB = -0.02LNAPI(-1) - 0.01LNAPI(-2) + 1.62LNACB(-1) - 0.64LNACB(-2) + 0.99 \tag{9}$$

The impact response from ACB to API shows that the agricultural credit balance has a negative effect on agricultural insurance premium income with a lag, indicating that the driving force of agricultural credit for agricultural insurance is gradually weakening. The impact response from ACB to itself shows that the persistence of the agricultural credit balance is strong.

**5.1.3 VAR model of agricultural gross domestic product and agricultural credit balance**

**Table 7** VAR Model of Agricultural Gross Domestic Product and Agricultural Credit Balance

Lag	LogL	LR	FPE	AIC	SC	HQ
0	5.260953	NA	0.001521	-0.815238	-0.795378	-0.94919
1	36.06595	38.50625*	2.01e-06*	-7.516488*	-7.456907*	-7.91834
2	39.80759	2.806225	3.07E-06	-7.451897	-7.352595	-8.121648*

From the table above, it can be seen that the hysteresis order of the model is 1 (Table 7).  
 The results of the VAR model are as follows (Table 8):

**Table 8** VAR Model Results

	LNGAP	LNACB
LNGAP(-1)	-0.05085	-0.243582

	-0.3381	-0.16617
	[-0.15040]	[-1.46585]
LNACB(-1)	-1.111409	0.978162
	-1.12273	-0.55181
	[-0.98991]	[ 1.77265]
C	-3.893179	1.80354
	-3.26128	-1.60288
	[-1.19376]	[ 1.12519]

From the VAR model, we can obtain two model equations that describe their relationship:

$$\text{LNGAP} = -0.05\text{LNGAP}(-1) - 1.11\text{LNACB}(-1) - 3.89 \quad (10)$$

From the impact response of GAP on ACB, it can be deduced that the agricultural production total value has a negative impact on the agricultural credit balance of the previous period, indicating that the stimulating effect of agricultural development on agricultural credit is gradually weakening. From the self-impact response of GAP, it can be concluded that the sustainability of agricultural development is relatively strong.

$$\text{LNACB} = -0.24\text{LNGAP}(-1) + 0.98\text{LNACB}(-1) + 1.80 \quad (11)$$

From the impact response of ACB to its own shock, it can be seen that agricultural credit has strong sustainability. From the impact response of ACB to GAP, it can be deduced that the effect of agricultural credit balance on the total value of agricultural production in the previous period is negative. Through the results of model indicators, it can be concluded that the stimulating effect of agricultural credit on agricultural development is gradually increasing.

## 5.2 Pulse Effect Analysis

On the basis of the VAR model, the pulse response function method can be further adopted for a deeper level of research, analyzing the degree of relationship and interaction between different endogenous variables. The pulse response function refers to the degree of response of one endogenous variable to a unit change in another endogenous variable. The analysis of pulse effects is based on the assumption that the VAR model has a certain stability. Therefore, it is first necessary to test the stability of the VAR model, and the test results and pulse effects are as follows:

### 5.2.1 Analysis of the pulse effect of agricultural premium income and gross agricultural production

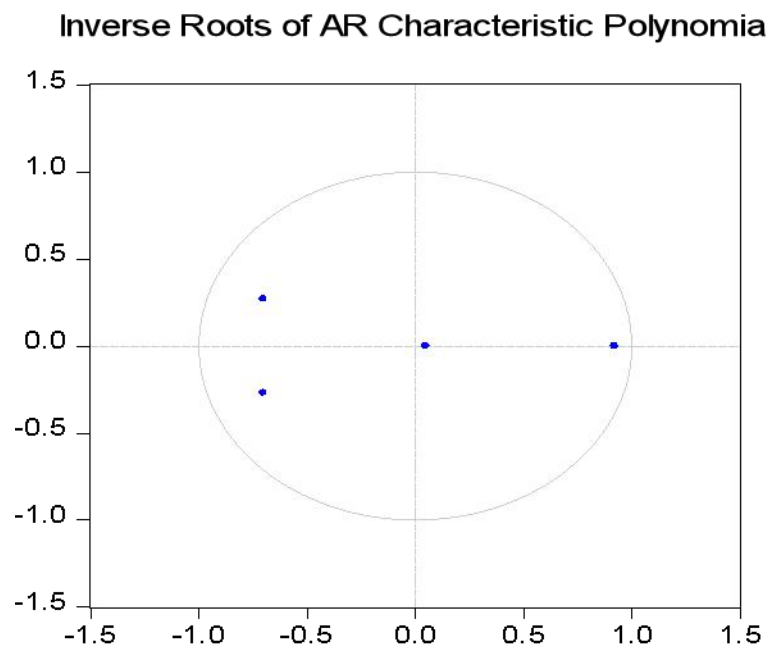
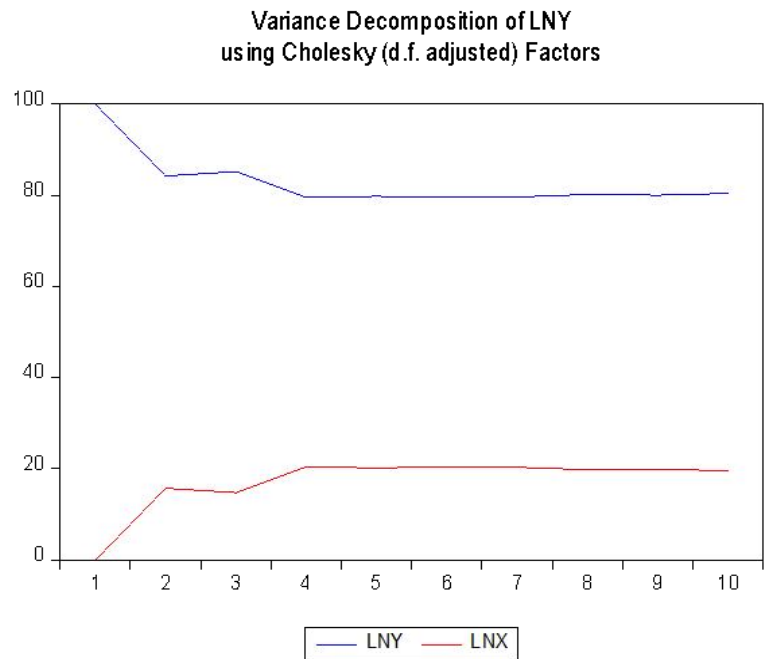


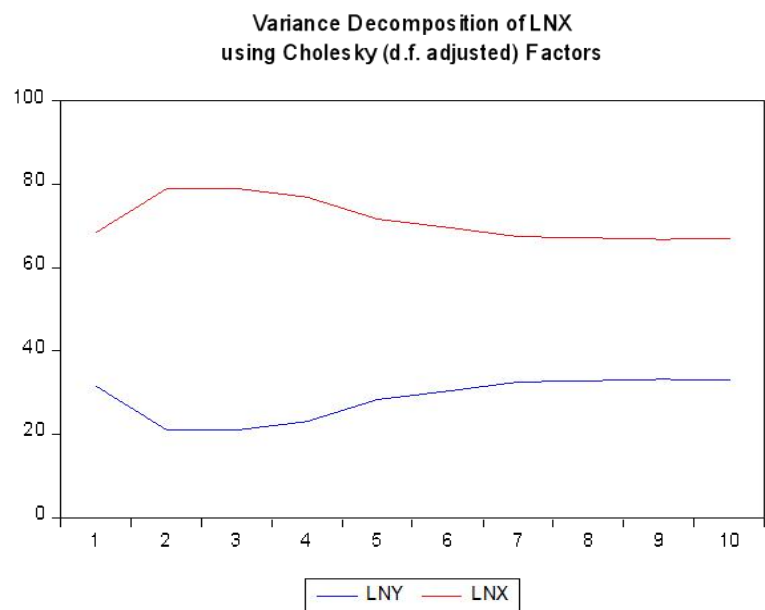
Figure 2 Stability Test

After a series of previous tests (Figure 2), it is still necessary to test the stability of the model. This can be judged by whether the eigenvalues fall within the unit circle. If all the eigenvalues are within the unit circle, the model is stable; otherwise, the model is unstable. As can be seen from the figure, all the eigenvalues fall within the unit circle, indicating that the VAR model is stable.



**Figure 3** Pulse Effect of Agricultural Insurance Premium Income on the Total Value of Agricultural Output

Overall, the impact of agricultural insurance premium income on the total agricultural output value is relatively weak (Figure 3), and it is a positive response, reaching the maximum positive impact from the first period, and then the response gradually weakens, basically approaching 0.



**Figure 4** Pulse Effect of Agricultural GDP on Agricultural Insurance Premium Income

As shown in the Figure 4: The impact of the total value of agricultural production on agricultural insurance premium income is a positive impact, and it gradually strengthens from the first period, starts to weaken slowly from the fifth period, and gradually tends to stabilize after five periods.

**5.2.2 Analysis of the pulse effect of agricultural insurance premium income and agricultural credit balance**

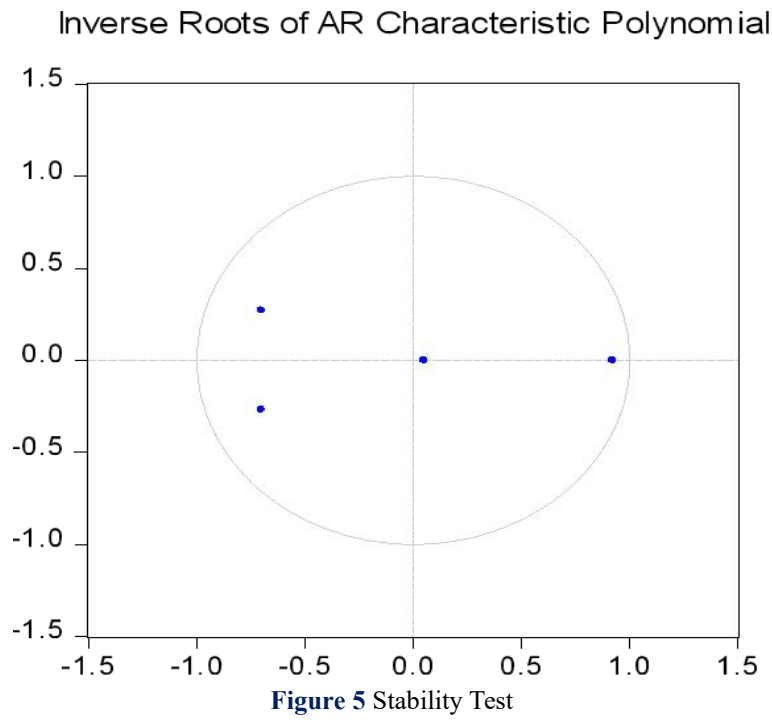


Figure 5 Stability Test

As can be seen from the Figure 5, all the eigenvalues are within the unit circle, indicating that the VAR model is stable.

**Response of LNZ to LNX Innovation  
using Cholesky (d.f. adjusted) Factors**

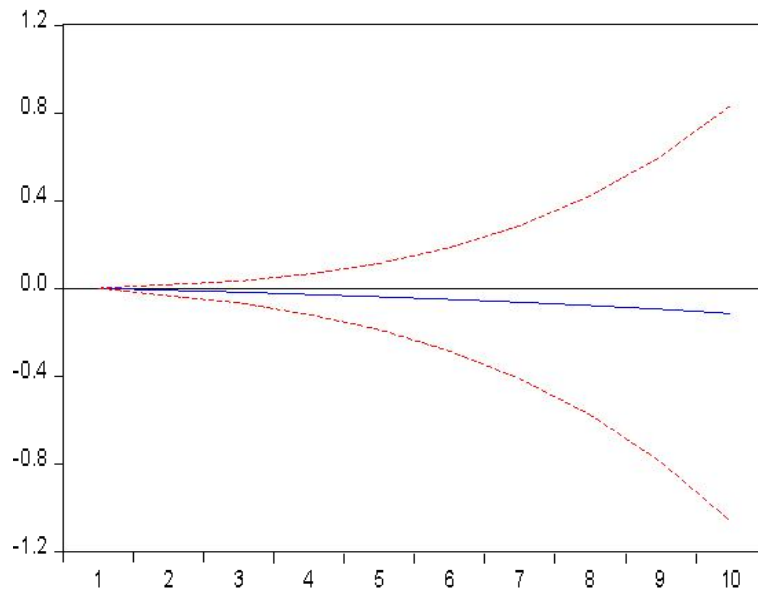
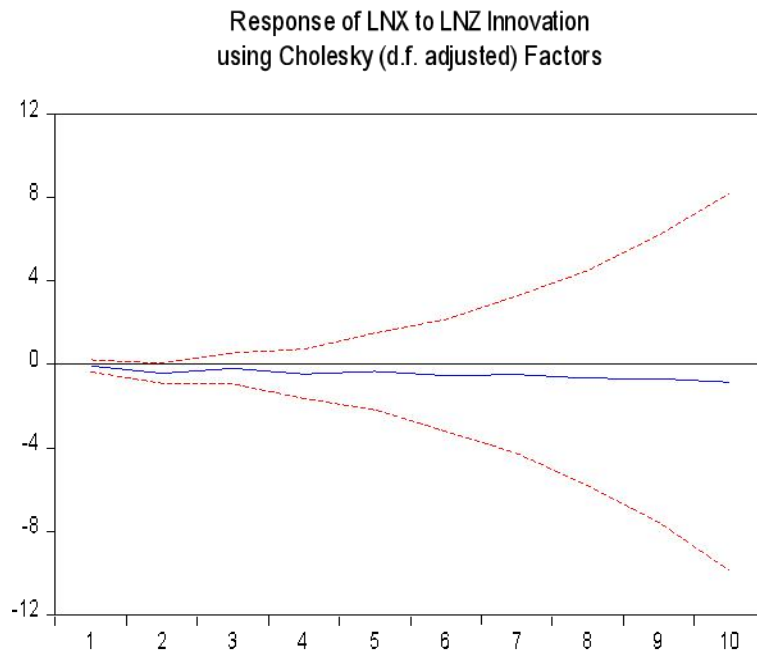


Figure 6 Pulse Effect of Agricultural Insurance Premium Income on Agricultural Credit Balance

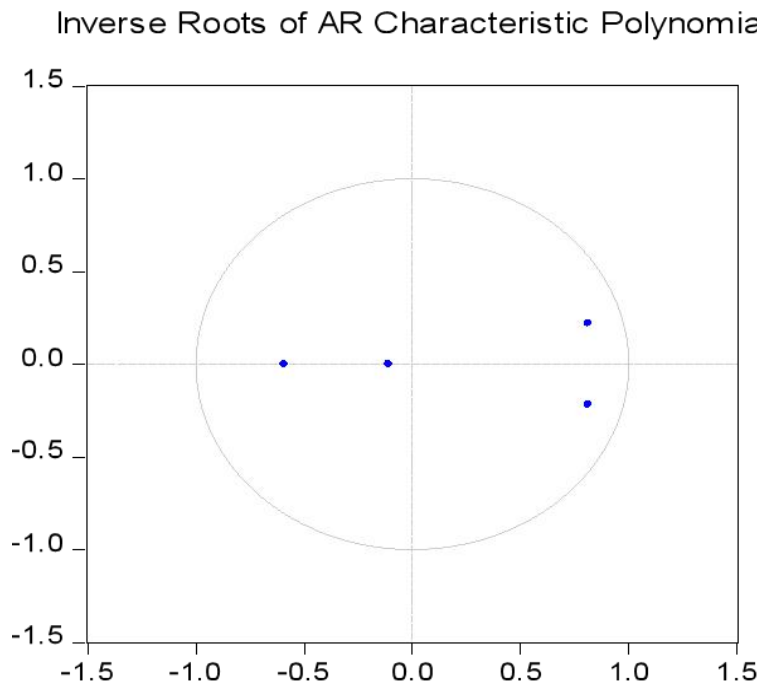
Overall, the agricultural insurance premium income has a negative impact on the agricultural credit balance (Figure 6), with the impact increasing from the first period and gradually diverging by the third period.



**Figure 7** Pulmonary Effect of Agricultural Loan Balance on Agricultural Premium Income

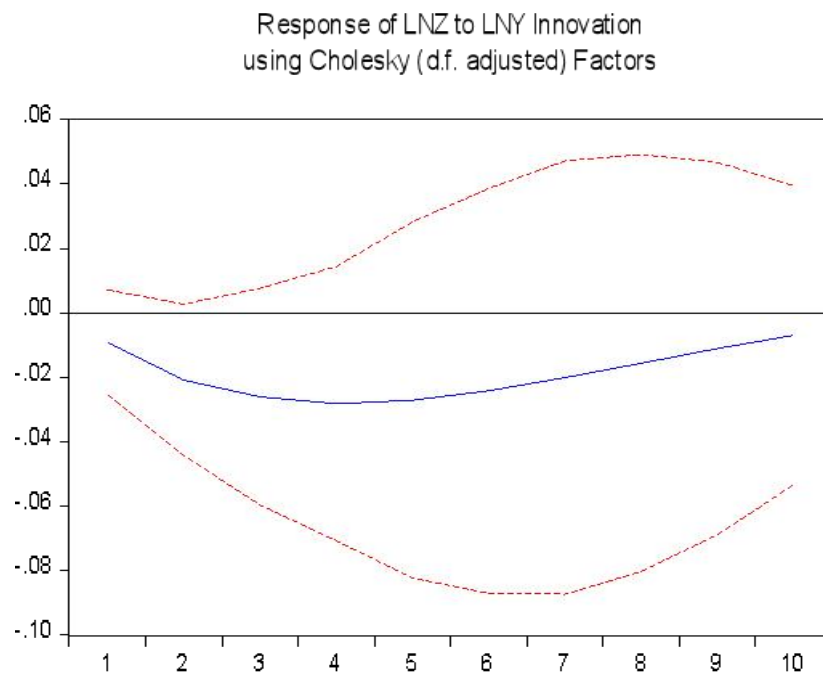
According to the diagram shown (Figure 7): Overall, agricultural credit balances have a positive impact on agricultural premium income. The influence starts to increase from the first period, and the response gradually tends to diverge thereafter.

**5.2.3 Analysis of the pulse effect of the total value of agricultural production and the balance of agricultural credit**



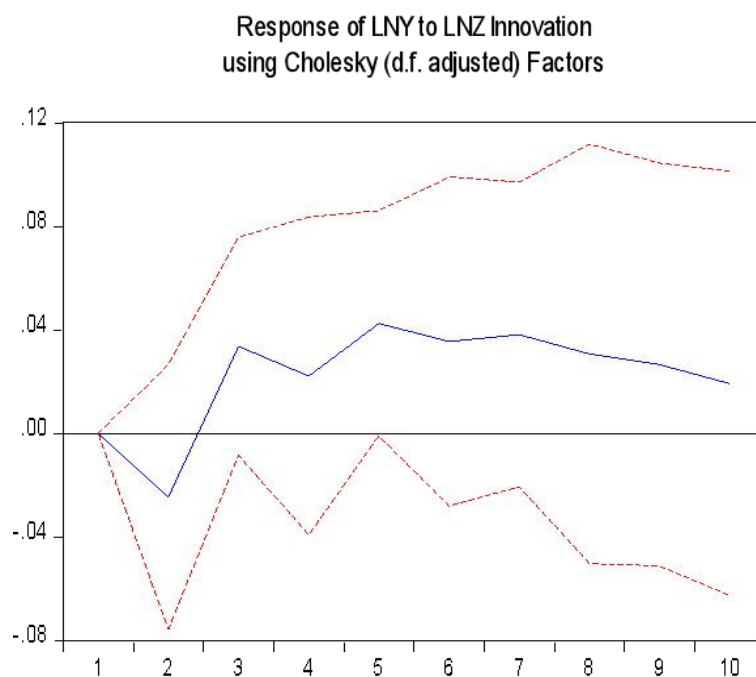
**Figure 8** Stability Test

From the Figure 8, it is known that all characteristic roots lie within the unit circle, indicating that the VAR model has stability.



**Figure 9** The Pulse Effect of Agricultural Gross Output on Agricultural Loan Balance

According to the Figure 9 shown: overall, the agricultural production total value generates a positive response to the agricultural loan balance. Starting from the 2nd period, the response gradually increases, reaching its maximum positive impact in the 7th period. After the 7th period, the response begins to gradually weaken, essentially stabilizing.



**Figure 10** The Pulse Effect of Agricultural Credit Balance on the Total Value of Agricultural Production

According to the diagram shown (Figure 10): Overall, the impact of agricultural credit balances on the total value of agricultural production is mainly positive. The first two periods have a strong negative effect, but from the second period onwards, the impact gradually increases to become positive. By the eighth period, it reaches the maximum positive impact. After that, the response gradually weakens, essentially stabilizing.

### 5.3 Variance Decomposition Analysis

The variance decomposition refers to the degree of interaction between vectors, which is reflected in the form of the variance percentage of the prediction error of the variable when one variable in a system is affected by a set of other variables. The basic idea of variance decomposition analysis in the VAR model is to test the contribution of each variable update to the degree of influence of variables in the VAR system.



### 5.3.1 Decomposition analysis of variance in agricultural premium income and total value of agricultural production

**Table 9** Decomposition Analysis of Variance in Agricultural Premium Income and Total Value of Agricultural Production

Variance Decomposition of LNGAP:				Variance Decomposition of LNAPI:			
Period	S.E.	LNAPI	LNGAP	Period	S.E.	LNAPI	LNGAP
1	0.499304	100	0	1	0.499304	31.653	68.347
2	0.621417	93.2534	6.746603	2	0.621417	32.14173	67.85827
3	0.72576	74.55913	25.44087	3	0.72576	35.86717	64.13283
4	0.776666	66.34072	33.65928	4	0.776666	29.39913	70.60087
5	0.826224	58.62117	41.37883	5	0.826224	29.91362	70.08638
6	0.841352	56.6729	43.3271	6	0.841352	26.35513	73.64487
7	0.855606	55.30533	44.69467	7	0.855606	26.13468	73.86532
8	0.857895	55.37253	44.62747	8	0.857895	24.92122	75.07878
9	0.860446	55.41828	44.58172	9	0.860446	24.50804	75.49196
10	0.861509	55.41279	44.58721	10	0.861509	24.11178	75.88822

From the variance decomposition results (Table 9), it is known that in the variance decomposition of agricultural premium income LNAPI, 55.412% of the contribution rate is self-carried, with the total value of agricultural production LNGAP accounting for 44.59%. In the variance decomposition of the total value of agricultural production LNGAP, 75.89% of the contribution rate is self-carried, with agricultural premium income LNAPI accounting for 24.11%, playing a significant role.

### 5.3.2 Decomposition analysis of variance in agricultural premium income and agricultural loan balance

**Table 10** Decomposition Analysis of Variance in Agricultural Premium Income and Agricultural Loan Balance

Variance Decomposition of LNAPI				Variance Decomposition of LNACB			
Period	S.E.	LNACB	LNAPI	Period	S.E.	LNACB	LNAPI
1	0.029557	2.698327	97.30167	1	0.029557	100	0
2	0.058355	48.65445	51.34555	2	0.058355	97.56502	2.434978
3	0.094355	42.06688	57.93312	3	0.094355	95.46726	4.532738
4	0.137732	58.34217	41.65783	4	0.137732	93.71812	6.28188
5	0.189112	57.8441	42.1559	5	0.189112	92.47653	7.523468
6	0.249136	67.48529	32.51471	6	0.249136	91.49336	8.506638
7	0.3188	68.74318	31.25682	7	0.3188	90.76061	9.239388
8	0.399235	74.68452	25.31548	8	0.399235	90.17249	9.827513
9	0.491884	76.13497	23.86503	9	0.491884	89.71644	10.28356
10	0.598411	79.7046	20.2954	10	0.598411	89.34552	10.65448

From the variance decomposition results (Table 10), it is known that in the variance decomposition of agricultural premium income LNAPI, 20.30% of the contribution rate is borne by itself, with agricultural credit balance LNACB accounting for 79.70%. In the variance decomposition of agricultural credit balance LNACB, 89.35% of the contribution rate is borne by itself, with agricultural premium income LNAPI accounting for 10.65%, which plays a relatively weak role.

### 5.3.3 Analysis of variance decomposition of total income from agricultural production and agricultural loan balance

**Table 11** Analysis of Variance Decomposition of Total Income from Agricultural Production and Agricultural Loan Balance

Variance Decomposition of LNGAP				Variance Decomposition of LNACB			
Period	S.E.	LNGAP	LNACB	Period	S.E.	LNGAP	LNACB
1	0.048717	100	0	1	0.048717	14.65568	85.34432
2	0.055111	80.10064	19.89936	2	0.055111	35.10952	64.89048
3	0.065244	59.27031	40.72969	3	0.065244	37.46885	62.53115
4	0.073344	58.64086	41.35914	4	0.073344	41.16763	58.83237
5	0.090631	50.90399	49.09601	5	0.090631	42.37678	57.62322
6	0.103608	50.71629	49.28371	6	0.103608	43.5709	56.4291
7	0.115657	49.53555	50.46445	7	0.115657	44.16671	55.83329
8	0.123651	49.68599	50.31401	8	0.123651	44.6135	55.3865
9	0.129129	49.62864	50.37136	9	0.129129	44.84397	55.15603

From the variance decomposition results (Table 11), it is known that 55.03% of the contribution rate in the variance decomposition of agricultural credit balance LNACB is self-carried, with the total value of agricultural production LNGAP accounting for 44.97%, with a significant contribution. In the variance decomposition of the total value of agricultural production LNGAP, 49.78% of the contribution rate is self-carried, with the agricultural credit balance LNACB accounting for 50.22%, playing a significant role.

## 5.4 Empirical Results and Analysis

Through the empirical analysis of the synergistic effect relationship between agricultural credit and agricultural insurance from 2012 to 2021, the following conclusions can be drawn:

First, the pulling effect of agricultural insurance on agricultural development is gradually strengthened while the pulling effect of agricultural development on agricultural insurance is gradually weakened. The impact of agricultural premium income on agricultural GDP is weak and positive, reaching the maximum positive impact from the first period. The impact of agricultural development on agricultural insurance is positive. Agricultural premium income plays a weak role in agricultural GDP.

Second, agricultural insurance has a certain pulling effect on agricultural credit, while the pulling effect of agricultural credit on agricultural insurance is gradually weakening. Agricultural credit has a negative impact on agricultural insurance, while agricultural insurance has a positive impact on agricultural credit. Agricultural credit has a weak contribution to agricultural insurance, while agricultural premium has a strong effect on agricultural credit balance.

Third, the pulling effect of agricultural credit on agricultural development is gradually strengthened, while the pulling effect of agricultural development on agricultural credit is gradually weakened. Agricultural GDP has a positive response to agricultural credit balance, and the impact of agricultural credit balance on agricultural GDP is mainly positive. Agricultural development contributes greatly to agricultural credit. Agricultural credit plays a greater role in agricultural development.

To sum up, agricultural credit and agricultural insurance of agricultural commercial banks in BZ City have a promoting effect on loan assistance. Agricultural insurance has promoted the development of agricultural credit to some extent, but the effect of agricultural credit on agricultural insurance is not obvious, and the synergy between them is weak.

## 6 CONCLUSION AND RECOMMENDATIONS

Currently, the agricultural insurance and agricultural credit in BZ City have developed to a certain extent, and agricultural insurance and agricultural credit have a certain promotional effect on the agricultural development of BZ City. However, due to the fact that China's agricultural insurance is still in the development stage, there are still many deficiencies. Empirical results show that the synergistic effect between the two is not significant, and there are still many deficiencies in the banking and insurance linkage model. Therefore, this chapter puts forward policy recommendations for the coordinated development of agricultural insurance and agricultural credit in BZ City based on empirical analysis.

### 6.1 Establish a Comprehensive Legal Guarantee Foundation

Due to the fact that China's rural financial tools are still in the initial stage and the situations among different provinces vary, there has been no unified model mechanism for the coordinated development of banking and insurance. Since the "Agricultural Insurance Regulations" were issued in 2012, China's agricultural insurance has gradually moved towards legalization. It can be seen that in order to establish and improve the legal foundation for agricultural insurance and agricultural credit, and to achieve sound development under the supervision of the authority and relevant financial departments, it is necessary to better coordinate the development mechanism between the two under standardized conditions.

Improve the legal foundation by first defining the rights and obligations among credit institutions, insurance companies, and farmers. Clarify their respective rights and responsibilities to ensure that all parties can have returns that match the risks, thereby ensuring the sustainable and healthy development of rural finance.

### 6.2 Establish a Sound Guarantee Mechanism

Due to the high risk of commercial agricultural insurance, the compensation probability is much higher than that of general property insurance, therefore, it is urgent to establish and improve the reinsurance system of agricultural insurance. By establishing a reinsurance system, the risks of agricultural insurance underwriting institutions can be reduced and dispersed, improving their profits and stimulating their innovative vitality. BZ City can establish a professional agricultural reinsurance company, obtain funding through authority finance, and insurance institutions can obtain reinsurance services by paying premiums to the reinsurance company, thereby providing dual protection for agricultural insurance.

From the perspective of agricultural insurance supply, insurance companies should adapt to local conditions and design different types of insurance products according to the actual situation of each place, providing diversified products and high-quality services to farmers. From the perspective of agricultural insurance demand, it should be led by the authority, gradually achieving comprehensive coverage of agricultural insurance, moving from cost insurance to income insurance.

### 6.3 Establish a Sound and Comprehensive Development Mechanism

Encourage rural and commercial banks and other commercial banks to actively develop agricultural credit-related

businesses, encourage non-bank financial institutions to conduct agricultural credit businesses in an orderly manner under supervision, gradually promote the market-oriented development of agricultural credit, gradually reduce the interest rates of agricultural credit under policy encouragement, broaden the scope of agricultural credit issuance, and form a top-down radiation-type agricultural credit system.

Credit guarantee mechanism is a powerful way to address the concerns of agricultural credit. By establishing a credit guarantee company for agricultural development in BZ City to provide guarantee for agricultural credit, it can encourage a large number of commercial banks and small and medium-sized financial institutions to engage in agricultural credit business, increasing their own profits while also responding to the national call to promote the establishment and completion of the national agricultural credit system. Agricultural insurance policies can be used as collateral for agricultural credit, solving the problem that individual farmers cannot obtain loans due to a lack of sufficient high-quality assets and collateral.

## COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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