THE EFFECT OF EMPLOYEES' PSYCHOLOGICAL CAPITAL ON EMPLOYEES' INNOVATIVE PERFORMANCE IN INTERNET TECHNOLOGY ENTERPRISES

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This Independent Study has been approved as a Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

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ABSTRACT

With the progress of the times and the rapid development of science and technology, the competitive environment of enterprises is becoming more and more intense. Enterprise managers are constantly looking for new products and market strategies to adapt to the rapid changes in the environment, and enterprises need to innovate continuously. This study took the employees of internet science and technology enterprises as the research subjects and investigated the influence of psychological capital on the innovative performance of employees. Objectively, the psychological quality of employees was analyzed, and the role of each factor in innovative performance was determined.

The objective of the study was to explore the effect of optimism, hope, psychological resilience and self-efficacy on the innovative performance of employees in Internet technology enterprises. This study adopted the quantitative research method. A total of 500 questionnaires were distributed and 385 valid questionnaires were recovered, with an effective rate of 77.0%. This study found that optimism, hope, psychological resilience and self-efficacy have a significant positive impact on the innovative performance of employees in internet technology enterprises. For recommendations, internet technology enterprises should focus on the following aspects: 1) maintaining employees' optimism; 2) enhancing employees' sense of hope; 3) improving employees' psychological elasticity; and 4) enhancing employees' sense of self-efficacy.

Keywords: psychological capital, innovative performance, internet technology enterprises, employees

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As this independent study is about to be completed, I deeply feel that my academic level still needs to be improved. Although this independent study has been revised and improved many times, it is inevitable that there are still some shortcomings. I hope that in the future study and practice, I can continue to make progress and make my own contribution to the development of the business administration discipline.

Thanks again to all those who have supported, helped and encouraged me. I will cherish this valuable experience and keep working hard to become a better MBA graduate.

Wu Guan Qion

July 24, 2024

DECLARATION

I, Wu Guan Qiong, hereby certify that the work embodied in this independent study entitled "The Effect of Employees' Psychological Capital on Employees' Innovative Performance in Internet Technology Enterprises" result of original research and has not been submitted for a higher degree to any other university or institution.

Wu Guan Qiong
(July 24, 2024)

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Chapter 1 Introduction

1.1 Background of the Study

With the progress and rapid development of science and technology, the competitive environment of enterprises is becoming more intense; managers are constantly looking for new products and market strategies to adapt to the rapid changes in the environment, and enterprises need to innovate continuously. Therefore, how to improve innovative ability has become one of the hotspots (Li et al., 2019). The environment in which enterprises are located is complex and changeable, which makes the competitive environment in which enterprises are located more intense. Improving the innovative performance of employees in the operation and management of the enterprise has become the key to influencing whether the enterprise can win in the competition (Xu et al., 2022). In addition, more and more managers in the business world recognize that having good social capital is the basis for obtaining a competitive advantage, while psychological capital is the key to improving the innovative performance of employees. Psychological capital solves the psychological problems of employees by influencing the attitudes and behaviors of organizational members to improve the overall performance of the enterprise, and it is one of the most important sources for managers to gain a competitive advantage in the enterprise (Görgens-Ekermans & Herbert, 2013).

In the business world, many managers have recognized that strong social capital is the foundation for gaining a competitive edge. Psychological capital is crucial for enhancing employees' innovative performance. It addresses employees' psychological issues by influencing their attitudes and behaviors, ultimately boosting the overall performance of the enterprise. Psychological capital is one of the important sources for managers to gain a competitive advantage for their enterprises. To encourage employee innovation and foster a favorable innovative atmosphere, some enterprises have undergone comprehensive reforms, with managers investing considerable effort and dedication. However, the outcomes have significantly diverged from expectations, as employees' innovative consciousness has not improved. The reason behind this is that managers lack a clear understanding of employees' innovative performance.

Enterprises encourage their employees and provide incentives for innovation, but they do not achieve results. Employee's innovative awareness is not improved because managers do not have a clear understanding of employee's innovative performance and do not realize what factors affect employee's innovative performance (Chen et al., 2019). Research on employee innovative performance and psychological capital has been improving, but there is less content on employee innovative performance and psychological capital in Internet technology enterprises. Internet technology enterprises are important in promoting economic growth and social development and are the trend of future enterprise development. This study mainly takes the employees of Internet technology enterprises as the research subject, takes psychological capital as the

starting point, and studies its influence on the innovative performance of employees. The objective analysis of the psychological quality of employees in various contexts and the analysis of the role of each factor on innovative performance provides a decision-making basis for the management of the work attitude and behavior of employees in Internet technology enterprises.

1.2 Questions of the Study

With the dynamic development of the market environment in the new industrial era, innovation has become the focus and difficulty of organizational development. Learning organization, flat organizational structure, and other new organizational management models continue to enhance the creativity needs of jobs at all levels, with a high level of knowledge and skills, and as the knowledge carrier and innovation body of knowledge-based employees plays an increasingly important role in the enterprise (Gengatharen & Suseno, 2017; Göçen, 2019). For internet technology enterprises, organizational innovation is the landing point of employees, so one of the core tasks of the enterprise is to try to improve the enthusiasm of knowledge-based employees, encourage them to take the initiative to participate in the sharing of knowledge and knowledge creation, and constantly develop new work processes, research, and development of new products or services, improve innovative performance, and achieve organizational innovation (Göçen, 2019).

1. Does optimism affect the innovative performance of employees in Internet technology companies?

2. Does hope affect the innovative performance of employees in Internet technology companies?

3. Does psychological resilience affect the innovative performance of employees in Internet technology companies?

4. Does self-efficacy affect the innovative performance of employees in Internet technology companies?

1.3 Objectives of the Study

In the competitive business environment, employees' psychological capital influences work attitude, efficiency, and behavior, while enhancing their ability to achieve performance through innovative methods. Therefore, emphasizing employees' psychological capital and innovative performance is a crucial factor for ensuring a company's market position. Employees who can autonomously alter their work scope

and boundaries, and excel in job crafting, can unleash greater value within themselves. This can significantly impact employees' innovative performance. Based on this background, the research variables and objectives of this study are proposed, and a theoretical model suitable for this research is constructed in conjunction with academic studies. Therefore, the purpose of this study is:

1. To explore the effect of optimism on the employee innovative performance in Internet technology companies.

2. To explore the effect of hope on the employee innovative performance in Internet technology companies.

3. To explore the effect of psychological resilience on the innovative performance of employees in Internet technology companies.

4. To explore the effect of self-efficacy on the innovative performance of employees in Internet technology companies.

1.4 Scope of the Study

This research focused on the influence mechanism of employee psychological capital on employee innovative performance in Internet technology companies, covering a wide range of research areas. The study targeted employees of Internet technology companies, including researchers, product managers, marketing personnel, and management at different positions and levels. The research period was from January 2024 to June 2024. In terms of data collection, a questionnaire survey method is employed. The questionnaire was used to collect data on the relationship between psychological capital and innovative performance. By leveraging internal company performance data, the research aimed to validate the impact of psychological capital on employee innovative performance. This research multi-level regression analysis revealed the intricate relationship between employee psychological capital and innovative performance in internet technology companies.

1.5 Significance of the Study

In today's information economy, employees face pressure mainly from work and family. With the intensification of competition and the increase in work intensity, the state of employees' psychological quality is important. Whether employees'

psychological quality is in an optimal state, whether their psychological quality is strong enough, and whether their work attitude is correct enough not only directly affects their performance and stability, but also largely determines whether enterprises can effectively improve organizational performance and enhance market competitiveness. The purpose of this study is to explore the specific role relationship between psychological capital and employees' innovative performance, expecting that through this exploration, we can deepen our understanding of the concept of psychological capital and its dimensions, and further explore the relationship between employees' psychological capital and innovative performance. This not only helps to expand the field of psychological capital and employee innovative performance based on existing research but also extends the content and depth of research in this field.

As an important psychological resource, psychological capital contains the dimensions of self-efficacy, hope, optimism, and resilience. Employees with a high level of psychological capital can cope with work pressure and challenges and maintain a positive work attitude, thus enhancing innovative performance. Well-conceived programs and effective professional guidance can help employees make full use of their strengths and enhance their psychological capital capabilities, thus improving their personal innovative performance. Deepening organizational identity is particularly important for managers. Through a deep understanding of the actual feelings and pressures of employees in the work process, managers can take more targeted measures to support and motivate employees. By summarizing and combining the existing theories, this study establishes a theoretical model around the impact of psychological capital on employees' innovative performance.

The research results of this study can not only provide a decision-making basis for enterprise management provide reference suggestions for enterprises in terms of resource support, employee training, and management support through the analysis of influencing factors such as psychological capital and employee innovative performance. For example, enterprises can encourage and enhance the psychological capital of employees to enhance their innovative ability and dedication to work, and then improve the overall performance level. Through the research of this study, enterprises can understand and apply psychological capital theory more systematically, and provide the scientific basis for enhancing employees' innovative performance. At the same time, this study also points out the direction for future research and calls for more scholars to pay attention to the mechanism and effect of psychological capital in different contexts to provide richer theoretical and practical support for the development of organizations and the growth of employees.

1.6 Definition of Key Terms

Psychological capital is a positive psychological state that helps employees maintain a proactive and efficient work performance when facing challenges. It includes the following four dimensions:

Optimism: Employees hold positive expectations and beliefs about the future, believing they can achieve their goals and find solutions when encountering difficulties. In this study, optimism is measured by employees' positive expectations for future work and their confidence in problem-solving.

Hope: Employees set goals and develop multiple paths and strategies to achieve these goals, while also possessing the drive to persist. In operational terms, hope is measured by employees' ability to set goals, the diversity of planned implementation paths, and their persistence in the face of setbacks.

Psychological resilience refers to the ability of employees to quickly recover and move forward when faced with adversity, failure, or stress. In this study, psychological resilience is assessed by employees' response speed and recovery ability when encountering work challenges or stress.

Self-efficacy refers to employees' perception of their confidence and ability to complete a task or achieve a goal. In operational terms, self-efficacy is measured by employees' confidence in their ability to perform work tasks.

Innovative performance refers to the creative thinking and innovative behaviors exhibited by employees in their work, as well as the outcomes and contributions resulting from these behaviors. In this study, innovative performance is measured by the quantity and quality of new ideas and innovative solutions proposed by employees, the practical application and implementation of innovative solutions, and the impact of innovative behaviors on overall performance and market competitiveness.

Internet technology companies refer to those primarily engaged in the development, application, and service of Internet technology. These companies typically have high demands to examine technological innovation and operate in rapidly changing market environments. In this study, internet technology companies are defined and selected as research subjects based on their core business, investment in technological innovation, and market influence.

1.7 Limitation of the Study

This study is dedicated to revealing the influence mechanism of employee

psychological capital on innovative performance in internet technology companies. Since the research subjects are mainly employees of Internet technology companies, the industry representativeness of the sample is relatively limited. The study cannot reflect the relationship between psychological capital and the innovative performance of employees in other industries. The collection of research data mainly relies on a questionnaire survey. This method is subject to the subjective factors of respondents, which can affect the objectivity and reliability of the data. The impact of psychological capital in this study may be more pronounced over a long time, and short-term studies may not fully reveal this long-term mechanism. Although this study attempts to increase the comprehensiveness of the research through multi-level and multi-angle data collection, in practical operation, it may face complex issues in data integration and analysis. The reliability and consistency of different data sources may also pose a significant challenge to the research results. In the actual measurement and definition process of the four dimensions of psychological capital (optimism, hope, psychological resilience, and self-efficacy), there may be conceptual overlaps and ambiguities, which can affect the accuracy and interpretation of the research results This study fails to fully consider variables such as external environment and organizational culture, which have impacts on employees' psychological capital and innovative performance. Therefore, future research needs further refinement and expansion to overcome these limitations and provide a more comprehensive and deep understanding.

Chapter 2 Literature Review

2.1 Literature Review

2.1.1 Employee Innovative Performance

(1) Definition of Employee Innovative Performance

Employee innovative performance is the process by which an employee achieves relevant performance through a series of approaches. Employee innovative performance is defined as the process by which employees come up with novel ideas for problems in the workplace, and employee innovative performance is the implementation of new and actionable ideas by individual employees to increase efficiency in the organization (Alghamdi, 2018). The concept of innovative performance can be broadly categorized into the following types: one is the comprehensive theory, the second is the process theory, and the third is the outcome theory. Based on the outcome theory, employee innovative performance must focus on the innovative performance of employees: The process theory believes that innovation is a long-term process, so it should be more focused on the output of the process such as new ideas, new processes, etc. (Cheng et al., 2020), and the attention should be focused on the results of innovation or the innovative process, which are not comprehensive in both approaches. This study argues that employee innovation requires a long time cycle, through the innovation of employees can further optimize the production process of the enterprise, and then the overall innovation of the enterprise will also have a significant enhancement, this process sometimes cannot be fully reflected in the results, this process is important (Shih et al., 2020).

Classification of the dimensions of employee innovative performance, employee innovative performance is divided into two dimensions: innovative behavior and innovative results (Shih et al., 2020; Zhao et al., 2020). Innovative behavior refers to a series of thinking activities and the collection of practical actions of employees to carry out innovative behavior, which contains all the ideas, concepts, and concepts before carrying out new activities and also contains the actions to realize these ideas, such as applying methods, developing new technologies, summarizing the work skills and so on. Innovation results are the results of an employee's ideas, methods, technical services, processes, and other aspects of innovative activities (Zhao et al., 2020), the results of innovation in addition to the output of innovation also include the application of the

results and the results of the application of the results of the effectiveness.

(2) Dimensions of Employee Innovation

Early research on individual creativity by scholars such as Amabile (1988) led to the development of a scale to measure employee innovative performance, encompassing three levels: innovative behavior, creativity, and job performance. Based on this, Janssen (1998) formulated a survey questionnaire consisting of nine questions, structured around three aspects: generating creative ideas, promoting ideas, and implementing new ideas. This scale is intended to be rated by supervisors. Zhou and George (2001) adopted a unidimensional approach to measure employee creativity in practical work, using 13 indicators to reflect employee innovative performance. Zhang & Kathryn (2010) utilized this method to measure employee innovative performance when studying the impact of the generation stage in the innovative process on company employees. Janssen (2005), and other researchers considered innovative behavior as a unidimensional variable and use nine indicators to reflect it. This evaluation method has been adopted by some domestic researchers to measure employee innovative performance. The current research status indicates that in studies of employee innovative performance, the concepts of innovative behavior, innovative performance, and creativity are not distinguished, leading to conceptual confusion and mixed use of scales.

Based on existing research, this study categorizes the dimensions of employee innovative performance and argues that "innovation willingness" represents the attitude and belief of employees towards engaging in innovative behavior. It is a psychological variable of employees and a crucial factor affecting employee innovative performance. Therefore, it is not suitable for measuring employee innovative performance. Consequently, employee innovative performance is divided into two dimensions: innovative behavior and innovative outcome.

Innovative behavior refers to the collection of cognitive activities and practical actions that employees engage in during innovation. It includes all ideas, concepts, and notions before engaging in new activities, as well as the actions taken to realize these ideas, such as applying methods, developing new technologies, summarizing work techniques, etc. (Chao et al., 2001; Zhang, 2010).

Innovation outcome refers to the results achieved by an employee in various aspects, such as ideas, methods, technical services, and processes, after engaging in

innovative activities. The outcome of innovation includes not only the outputs but also the application of these outputs and the effectiveness achieved through their application (Corbu et al., 2021; Janssen et al., 1998).

2.1.2 Psychological Capital

Psychological capital is a relatively stable psychological characteristic at the micro level, which mainly affects the following aspects: firstly, work efficiency, secondly, work attitude, thirdly, work motivation (Zhao & Hou, 2009), and one's self-esteem can be mapped out through one's psychological capital. Psychological capital is more stable, measurable, and improved through acquired learning and influence. In recent years, the research on the relationship between psychological capital and enterprise innovative performance has become a hot research topic in the academic world, and the development and management of enterprise employees' psychological capital, so that employees can maintain a positive psychological (Gengatharen & Suseno, 2017) state in their work, life, organizational communication, knowledge learning, and goal achievement, is one of the important issues facing the research on psychological capital at present. Scholars define psychological capital as a personal trait that can be changed, not something that is difficult to measure and change, and he believes that psychological capital includes four aspects: confidence, hope, optimism, and resilience (Gengatharen & Suseno, 2017). Confidence is the degree of self-efficacy of an individual in terms of his or her ability to put in the appropriate amount of effort and achieve success in a challenging task. Hope is the degree to which an individual displays a positive attitude toward accomplishing a task. Optimism is the degree to which the individual examines whether he or she can make positive attributions in the face of setbacks and difficulties. Resilience is whether an individual can persevere and recover quickly in difficult situations (Görgens-Ekermans & Herbert, 2013). Through combing through the literature, it is found that for the study of employees' psychological capital, a four-dimensional scale can be chosen to measure psychological capital which is more suitable for this study, so this study chooses the four dimensions of psychological capital: optimism, hope, psychological resilience, and self-efficacy for the design of the scale.

(1) Optimism

Optimism means that individuals have positive expectations for the future with challenges and achieve positive results in various situations. As a dimension of psychological capital, optimism involves not only an individual's positive expectation

of future outcomes but also maintaining positive attitudes and beliefs in the face of adversity (Dawson, 2017). Optimistic employees are more likely to see the positive side of problems and tend to adopt creative approaches to solving them. This positive mindset stimulates employees to think creatively and improves innovative performance. Optimism expands an individual's thinking and behavioral tendencies and enhances creativity and innovation. Optimistic employees tend to be more willing to adopt positive coping strategies rather than passive avoidance when facing challenges and dilemmas at work. This positive coping style helps to enhance their problem-solving ability, which in turn positively affects innovative performance. It has been found that optimistic employees can recover more quickly and learn from their failures when faced with them, accumulating valuable experience for future innovative activities (Zhao & Hou, 2009). Optimism in psychological capital has a significant positive impact on employee innovative performance.

(2) Hope

In the study of the influence mechanism of psychological capital of employees in Internet technology enterprises on employees' innovative performance, the hope dimension of psychological capital is considered to have an important contributing role. Employees with high levels of hope show higher motivation and creativity when facing innovation tasks. Hope enhances employees' goal-oriented behavior and enables them to innovate (Wong et al., 2021). This positive mindset and flexible coping strategies are important for innovation efforts, which are often accompanied by uncertainty and the risk of failure. In Internet technology enterprises, innovation is an important source of competitiveness, and the innovative performance of employees directly affects the development of the enterprise (Tsuboya et al., 2015). It is hoped that stimulating employees' intrinsic motivation and enhancing their problem-solving abilities, will play a key role in innovative performance. Several empirical studies support this view, for example, one study found that employees with high levels of hope are more likely to generate creative ideas and transform ideas into practical outcomes. The hope dimension has a significant impact on employee innovative performance in psychological capital, which promotes employees to remain active and flexible in the innovation process by enhancing their goal orientation and problem-solving abilities, thus improving overall innovation outcomes.

(3) Psychological resilience

Psychological resilience is an important part of psychological capital. It plays a crucial role in investigating how employees' psychological capital in internet

technology firms influences employee innovative performance. Psychological resilience refers to an individual's ability to adapt and recover quickly in the face of adversity, pressure, and setbacks (Jankowska, 2016). This ability is important in the volatile and challenging Internet technology industry, where employees often have to cope with rapidly changing market demands, technological updates, and high-intensity work environments. Psychological resilience can significantly affect employees' innovative performance. First of all, employees with high psychological resilience can quickly adjust their mindset and get back to work in the face of failures and setbacks. Instead of being easily defeated by momentary difficulties, they can learn from their failures and find new solutions. This adaptability and resilience allow them to keep moving forward in the innovation process and maintain high levels of creativity and productivity. Enhancing the psychological resilience of employees is important for the innovative performance of an organization (Fayombo, 2010). Companies can help employees increase their psychological resilience by providing mental health support, stress management training, and creating a positive work environment. In addition, encouraging employees to try new approaches at work and tolerate failure can also help develop their psychological resilience and innovative spirit. Leaders play a key role in this, and by modeling and supporting them, they can effectively enhance the psychological resilience and innovative performance of their teams.

(4) Self-efficacy

Self-efficacy is a crucial dimension in the study of the mechanism of the influence of employees' psychological capital on employees' innovative performance in Internet technology enterprises (Aliyev & Tunc, 2015). Self-efficacy refers to an individual's belief in his or her ability to accomplish a task or achieve a goal. In the highly competitive and fast-changing Internet technology industry, self-efficacy plays a key role in employees' innovative performance. Employees with high self-efficacy usually have greater self-confidence and initiative, which makes them more willing to try new methods and technologies and actively participate in innovation activities. They believe in their ability to meet complex and uncertain challenges, and this confidence makes them more adventurous and willing to explore the innovation process (Corbu et al., 2021). Self-efficacy not only drives employees to set higher innovation goals but also makes them more persistent in the face of difficulties and look for multiple ways to solve problems. As a core dimension of psychological capital, self-efficacy has a profound impact on the innovative performance of employees in Internet technology companies. By enhancing employees' self-efficacy, companies can stimulate their innovation potential, improve team creativity and collaboration, and thus stay ahead of the game in a competitive market.

2.2 Research Relevant

(1) Relationship between Psychological Capital and Employee Innovative Performance

In empirical studies of psychological capital, scholars often link it to work performance. Research has found that employees' self-expectations of creativity and participation in innovative performance have a positive impact. Therefore, higher self-awareness of psychological capital among employees leads to higher levels of creative participation. Scholars have discovered a positive correlation between employees' psychological capital and trust in the enterprise (Vella & Pai, 2019). When employees perceive the actions of managers as beneficial to their organization and its members, they will have positive expectations for future outcomes, and a positive work attitude will enhance job performance. Scholars have explored how psychological capital motivates service workers to develop internal motivation and entrepreneurial confidence, dividing psychological capital into two aspects: hopeful self-efficacy and optimistic resilience (Wong et al., 2021). The study found that employees with more optimistic psychological capital have higher self-recovery abilities and can create higher innovative performance.

Scholars have investigated the impact of psychological capital on employee innovative performance, subdividing psychological capital into dimensions. The research results indicate that effort, persistence, and growth need strength have significant direct effects on employee innovative performance, with the degree of impact decreasing in order (Zhao et al., 2020). There is a low to moderate positive correlation between human capital, social capital, and psychological capital, all of which have significant positive effects on task performance and contextual performance, but psychological capital has the strongest influence. Research on scientific research project teams has found that team psychological capital has a positive predictive effect on team innovative performance, emphasizing the importance of actively paying attention to the level of psychological capital and responsibility of team members, strengthening strategic thinking, systematic thinking, and dialectical thinking, and continuously enhancing the ability to oversee the overall situation (Shih et al., 2020).

(2) Factors Influencing Employee Innovation

Although there is no unified definition of employee innovative performance in academia, research on this concept has already begun. Employee innovation capital mainly consists of the following components: external support, personal ability level, and knowledge system (Gengatharen & Suseno, 2017). For employees, a knowledge system allows them to acquire richer knowledge, and as their knowledge system becomes richer, they will have stronger innovation capabilities. Different employees have varying abilities to absorb knowledge. If an employee has a strong ability to learn knowledge, they will acquire richer knowledge through organizational transfer and then convert that knowledge into outcomes, which is also one form of innovation. From the perspective of social exchange theory, if an organization provides sufficient support during the innovation process, employees will have stronger innovation willingness (Göçen, 2019).

Most researchers point out that if an employee's knowledge system is rich, it will help improve their understanding of new things and new ideas, thereby promoting enterprise innovation. Knowledge can be transferred to individuals, enhancing their knowledge reserves and promoting personal innovation (Chen et al., 2019). By encouraging knowledge transfer among employees, enterprises can promote innovative behavior and enhance employees' innovative performance. Scholars point out that knowledge transfer can significantly enhance employee innovative performance, but there is a precondition that employees must continuously enrich their knowledge systems (Li et al., 2019). Research has found that if an enterprise can establish appropriate and effective knowledge dissemination paths, employees' innovation capabilities will be stronger, and the overall innovative performance of the enterprise will be significantly improved (Xu et al., 2022).

The choice of knowledge transfer paths by the organization will greatly affect employees' innovative performance. At the same time, organizational knowledge transfers enable employees to learn more external knowledge, and employee innovative performance continuously improves, the enterprise's innovation capability will also increase, which enhances the enterprise's overall innovative performance. Regarding the impact of employees' self-abilities on their innovative performance, most researchers point out that employee innovative performance is influenced by their various abilities (Görgens-Ekermans & Herbert, 2013). Literature indicates that using statistical yearbook data from 2005 to 2012 as a sample and performing linear regression, there is a strong correlation between employee innovation capability and their innovative performance, and the relationship is positive. The ability to learn

from mistakes affects innovative performance, which is achieved through influencing knowledge stock. Employee innovation behavior is influenced by their dynamic capabilities to some extent. The outcome of innovation behavior is innovative performance. Therefore, employee dynamic capabilities also affect the enterprise's overall innovative performance (Chen et al., 2019).

Among the overall resource capabilities of an enterprise, human capital, social capital, and psychological capital all have significant positive effects on enterprise performance at different levels (Zhao et al., 2020). Psychological capital has the strongest influence on enhancing employee work performance and the overall competitiveness of the enterprise. This indicates that in situations where the market environment is rapidly changing, market information is increasingly dynamic, and the business environment is unstable, the psychological capital of enterprise employees is the resource that best reflects its influence within the overall resource capabilities of the enterprise (Wong et al., 2021). The significant positive impact of psychological capital on employee performance further promotes the enterprise's innovative performance and creates a positive and harmonious work atmosphere.

2.3 Alibaba Profile

Alibaba is a Chinese internet technology enterprise headquartered in Hangzhou, founded in 1999 by Jack Ma and a group of like-minded entrepreneurs. Initially, Alibaba aimed to provide an online platform for small and medium-sized enterprises, helping them trade globally. As e-commerce flourished, Alibaba quickly grew to become one of the world’s largest e-commerce companies. Alibaba’s business spans multiple sectors, including e-commerce, cloud computing, digital media, and fetch. Its two flagship platforms, Taobao and Tmall, are widely recognized. Taobao focuses on consumer-to-consumer (C2C) transactions, while Tmall provides a direct platform for brands to engage with consumers. Beyond e-commerce, Alibaba has ventured into cloud computing through Alibaba Cloud, becoming a leading cloud service provider in China, offering businesses data storage, computing, and other technological support. Alibaba’s ecosystem extends beyond commerce into digital payments (Alipay), logistics services (Cainiao Network), and digital entertainment (Youku, Alibaba Pictures), forming a vast digital economy empire. With its innovations in technology and business models, Alibaba has driven the growth of the internet industry and plays a crucial role in global digitalization efforts.

2.4 Conceptual Framework

Based on the literature review, a model of the impact mechanism of psychological capital on employee innovative performance in internet technology enterprises is constructed. In this model, optimism, hope, resilience, and self-efficacy of psychological capital are independent variables, while employee innovative performance is the dependent variable. The relationship between the variables is verified through the construction of the model. The model framework is shown in Figure 2.2.

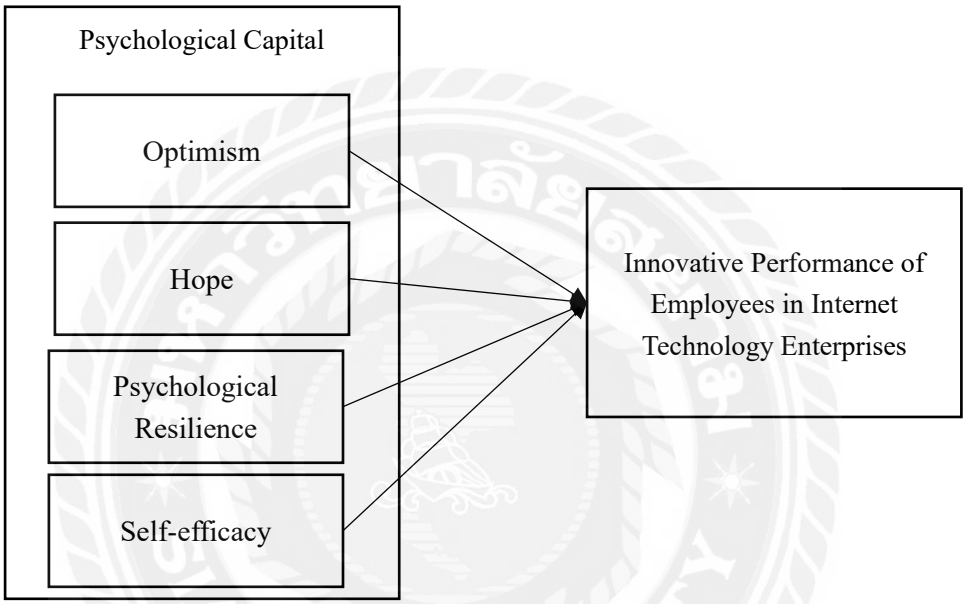

Figure 2.2 Conceptual Framework

Chapter 3 Research Methodology

3.1 Research Design

This study explored the impact of psychological capital on employee innovative performance in Internet technology enterprises by adopting the quantitation research method. The variables proposed in the study include optimism, hope, psychological resilience, self-efficacy of psychological capital, and employee innovative performance.

3.2 Population and Sample

To investigate the impact mechanism of psychological capital on employee innovative performance in Internet technology enterprises, it is necessary to select an appropriate population and sampling method to ensure the validity and representativeness of the research. The target population was employees of Internet technology enterprises within China. This study selected renowned Internet technology companies such as Alibaba as research subjects. These companies have a large employee base and strong innovation demands, providing rich data. For the sampling method, the simple random sampling was employed. Combined with the reliability of sample extraction of 99.9%, the sample size was calculated.

$$N = \frac{r^2 * \rho(1-\rho)}{\beta^2}$$

The calculation gives the sample size of 499.89, so the number of employees to be selected is 500.

3.3 Hypothesis

In this study, the independent variables are optimism, hope, resilience, and self-efficacy, while the dependent variable is employee innovative performance. A model is constructed based on the analysis and relationships between these variables. The relationships between the variables are established through hypotheses as follows:

H1: Optimism has a significant positive effect on the innovative performance of employees in Internet technology enterprises.

H2: Hope has a significant positive effect on the innovative performance of employees in Internet technology enterprises.

H3: Psychological resilience has a significant positive effect on the innovative performance of employees in Internet technology companies.

H4: Self-efficacy has a significant positive effect on the innovative performance of employees in Internet technology companies.

Combined with the above analysis, the hypothetical model and the interrelationships among the variables are confirmed as shown in Figure 3.1.

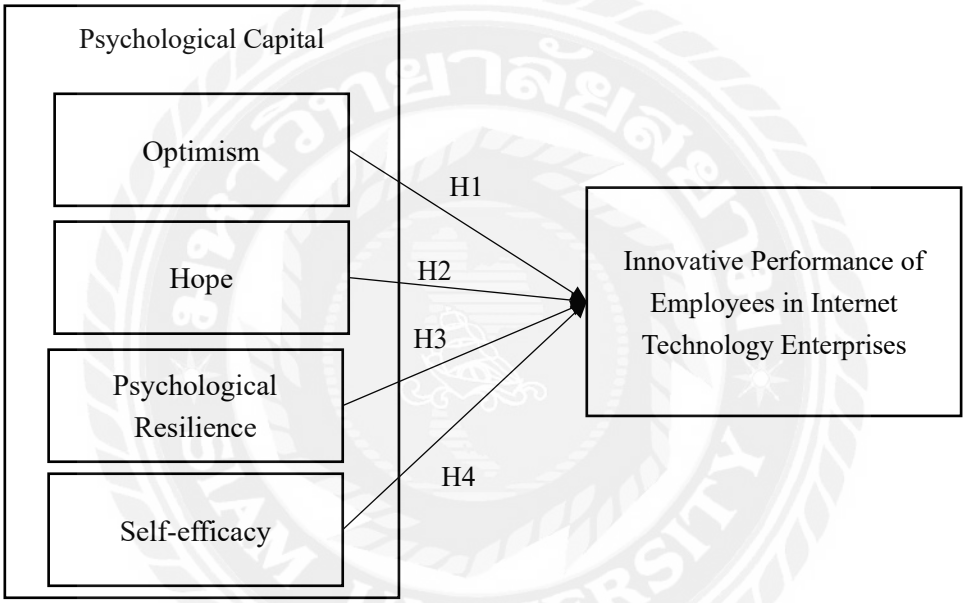

Figure 3.1 Hypotheses

3.4 Research Instrument

This study designed a questionnaire to collect data on the impact of employee psychological capital on innovative performance in internet technology companies. The independent variables are optimism, hope, psychological resilience, and self-efficacy, while the dependent variable is innovative performance.

The measurement of each variable adopts the traditional scales from the research literature. The questionnaire is divided into two parts. The first part provides basic information about Internet technology enterprise employees, including gender, age, education, position and tenure. The second part introduces the measurement items of

each variable. The questionnaire adopts a Likert five-point scale, with a result range of 5 to 1, representing "strongly agree", "agree", "neutral", "disagree", and "strongly disagree". This study adopted the quantitative research. In the questionnaire design, there are 5 measurement items for optimism, 5 for hope, 5 for psychological resilience, 5 for self-efficacy, and 10 for employee innovative performance. The survey questionnaire includes a total of 30 measurement items as shown in Table 3.1.

Table 3.1 Measurement Items

Variable	Measurement item	NO.
Optimism	I believe I can overcome any difficulties in my work.	Q1
	I am full of confidence in my future work.	Q2
	I always anticipate that things will develop in a positive direction.	Q3
	Even in the face of setbacks, I can maintain a positive mindset.	Q4
	I am convinced that my efforts will lead to success.	Q5
Hope	I have developed detailed plans to achieve my work goals.	Q6
	Even when encountering obstacles, I will find new ways to achieve my goals.	Q7
	I am hopeful about my professional future.	Q8
	I always actively seek various avenues to accomplish my work objectives.	Q9
	When things do not progress smoothly, I do not give up easily.	Q10
Psychological Resilience	After encountering setbacks at work, I can recover quickly.	Q11
	Faced with stress, I can remain calm and find solutions.	Q12
	I can learn from failures and continually improve.	Q13
	Even in the face of significant challenges, I can maintain emotional stability.	Q14
	I am capable of dealing with uncertainty and changes in my work.	Q15
Self-efficacy	I am confident in my ability to perform current work tasks.	Q16
	I have faith in my performance at work.	Q17
	I can efficiently complete all tasks assigned to me.	Q18
	Even with heavy workloads, I can manage my time and resources effectively.	Q19
	I can solve various problems encountered in my work.	Q20
Innovative Performance of	I frequently propose new work ideas and improvement suggestions.	Q21

Variable	Measurement item	NO.
Employees in Internet Technology Enterprises	My innovative ideas can be practically applied in my work.	Q22
	I can creatively solve problems in my work.	Q23
	My innovative behavior has a positive impact on the team's work.	Q24
	I actively participate in the implementation of company innovative projects.	Q25
	My proposed innovative solutions have been recognized by colleagues and superiors.	Q26
	My innovative achievements have made practical contributions to the company's business development.	Q27
	I can independently think and propose innovative solutions in my work.	Q28
	I can quickly adapt to the use of new technologies and tools.	Q29
	My working style is flexible and I can adjust to different work environments and requirements.	Q30

3.5 Reliability and Validity Analysis of the Scale

3.5.1 Questionnaire Reliability Analysis

Cronbach's Alpha was used to measure the reliability of the questionnaire, and the value of Alpha ranges from 0 to 1. The larger the Alpha coefficient is, the higher the reliability is, and the more reliable the results are. SPSS was used to analyze the reliability of the questionnaire, and the results are shown in Table 1. The Cronbach's Alpha of all the factors is higher than 0.8. According to Cronbach's Alpha criterion: a coefficient greater than 0.8 is good for reliability; between 0.7 and 0.8 is acceptable, and less than 0.7 is unacceptable. The reliability of the questionnaire in this study is acceptable and the internal consistency of the data is good.

The Cronbach's Alpha coefficient for optimism is 0.902, the Cronbach's Alpha coefficient for hope is 0.900, the Cronbach's Alpha coefficient for psychological resilience is 0.878, the Cronbach's Alpha coefficient for self-efficacy is 0.877, the Cronbach's Alpha coefficient for innovative behavior is 0.893, and the Cronbach's Alpha coefficient for innovative outcomes is 0.885. All of them are in the range of 0.8~0.9, which indicates that the reliability of this study's questionnaire is better, and then the validity can be further analyzed. This indicates that the reliability of the

questionnaire of this survey study is very good, as shown in Table 3.2.

Table 3.2 Variate Reliability Test

Variable	Dimension	Cronbach's Alpha	N of Items
Psychological Capital	Optimism	0.902	5
	Hope	0.900	5
	Psychological Resilience	0.878	5
	Self-efficacy	0.877	5
Innovative Performance	Innovative Behavior	0.893	5
	Innovative Outcomes	0.885	5

3.5.2 Questionnaire Validity Analysis

KMO test and Bartlett's test for sphericity were used for validity. SPSS was used to perform "factor analysis" on the sample data. In the results of the analysis of employees' psychological capital, KMO=0.943, and P=0.000 of Bartlett's Test of Sphericity is less than 0.05, the two indexes meet the standard, and factor analysis can be done. Factor analysis verifies whether the dimension division of the questionnaire is reasonable. Factor analysis was conducted by principal component analysis, and four factors with eigenvalues greater than 1 were extracted as common factors, which were consistent with the conception of the study. The cumulative variance contribution rate reaches 70.137%, which exceeds the overall 60%, indicating that the screened factors are well represented and the results of factor extraction are satisfactory. Using the maximum difference method to rotate the factors, the indicators, and the corresponding dimensions are consistent with the scale initially sorted out by the study, thus the dimensions divided by the study are more scientific and reasonable. See Tables 3.3, 3.4, and 3.5.

Table 3.3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.943
Bartlett's Test of Sphericity	Approx. Chi-Square	4680.264
	df	190
	Sig.	0.000

Table 3.4 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	% of Variance	Cumulative %	% of Variance	Cumulative %
1	8.702	43.510	43.510	43.510	43.510	18.489	18.489

2	2.219	11.097	54.607	11.097	54.607	17.654	36.143
3	1.799	8.995	63.602	8.995	63.602	17.232	53.374
4	1.307	6.534	70.137	6.534	70.137	16.762	70.137
5	0.526	2.629	72.765				
6	0.476	2.380	75.146				
7	0.463	2.314	77.460				
8	0.442	2.212	79.672				
9	0.430	2.151	81.823				
10	0.428	2.142	83.965				
11	0.412	2.058	86.023				
12	0.393	1.967	87.989				
13	0.384	1.922	89.911				
14	0.345	1.727	91.638				
15	0.340	1.699	93.337				
16	0.306	1.532	94.869				
17	0.296	1.480	96.349				
18	0.275	1.374	97.723				
19	0.254	1.270	98.992				
20	0.202	1.008	100.000				

Table 3.5 Rotated Component Matrix

	1	2	3	4
Q1	**0.794**	0.194	0.190	0.183
Q2	**0.786**	0.181	0.148	0.154
Q3	**0.781**	0.176	0.203	0.162
Q4	**0.777**	0.119	0.213	0.251
Q5	**0.789**	0.166	0.140	0.253
Q6	0.078	**0.824**	0.093	0.139
Q7	0.197	**0.822**	0.159	0.147
Q8	0.153	**0.813**	0.150	0.093
Q9	0.141	**0.797**	0.112	0.115
Q10	0.370	**0.722**	0.350	0.168
Q11	0.153	0.149	**0.773**	0.236
Q12	0.153	0.208	**0.721**	0.267
Q13	0.233	0.129	**0.767**	0.194
Q14	0.203	0.136	**0.755**	0.243
Q15	0.153	0.155	**0.725**	0.237
Q16	0.251	0.118	0.224	**0.735**
Q17	0.096	0.162	0.279	**0.741**
Q18	0.213	0.113	0.194	**0.788**
Q19	0.220	0.136	0.231	**0.734**
Q20	0.238	0.140	0.260	**0.722**

The results of employee innovative performance analysis, KMO = 0.890 and Bartlett's Test of Sphericity of P = 0.000 are less than 0.05, the two indicators meet the standard and can do factor analysis. Two factors were obtained through principal component analysis, and the cumulative variance contribution rate reached 69.678%, which exceeded the overall 60%, indicating that the screened factors were well represented and the results of factor extraction were satisfactory. In conclusion, the reliability and validity of the questionnaire in this study passed the test and can be analyzed. See Tables 3.6, 3.7, and 3.8.

Table 3.6 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.890
Bartlett's Test of Sphericity	Approx. Chi-Square	2162.277
	df	45
	Sig.	0.000

Table 3.7 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	% of Variance	Cumulative %	% of Variance	Cumulative %
1	4.780	47.802	47.802	47.802	47.802	35.183	35.183
2	2.188	21.876	69.678	21.876	69.678	34.495	69.678
3	0.548	5.484	75.162				
4	0.464	4.640	79.802				
5	0.430	4.298	84.100				
6	0.377	3.772	87.873				
7	0.376	3.764	91.637				
8	0.343	3.434	95.071				
9	0.264	2.640	97.711				
10	0.229	2.289	100.000				

Table 3.8 Rotated Component Matrix

	1	2
Q1	**0.794**	0.158
Q2	**0.818**	0.194
Q3	**0.880**	0.121
Q4	**0.798**	0.119
Q5	**0.821**	0.212
Q6	0.209	**0.741**

Q7	0.137	**0.809**
Q8	0.106	**0.878**
Q9	0.183	**0.813**
Q10	0.156	**0.823**

3.6 Data Collection

The data collection process began with identifying the target population, which was the employees of Internet technology enterprises working within China. Renowned Internet technology companies such as Alibaba were selected as research subjects due to their large employee base and strong innovative demands, providing ample data. To measure psychological capital and employee innovative performance, validated scales were used in the study. Data collection was conducted through online questionnaires to ensure efficiency and convenience. The questionnaires were sent to selected employees via email or internal company systems, allowing them to complete and submit within a specified timeframe. To enhance response rates, incentive measures such as raffles or small gifts were implemented to encourage active participation from employees. Meanwhile, to ensure data accuracy and validity, instances of careless or random responses were excluded. After data collection, the study proceeded with data cleaning and preprocessing, eliminating invalid data and using statistical software to explore the impact mechanism of various dimensions of psychological capital on employee innovative performance. Throughout the process, strict anonymity and confidentiality were maintained to ensure employee privacy and data security. A total of 500 survey questionnaires were distributed, and 385 valid survey questionnaires were collected, with an effective rate of 77.0%.

3.7 Data Analysis

3.7.1 Descriptive Statistics

Descriptive statistics provide an overview and summary of the characteristics of sample data, often used to quantify the overall features of a dataset. In the dynamic world of internet technology companies, the demographic makeup of employees is a vital aspect. From gender and age to educational background and years of service, these characteristics paint a vivid picture of the workforce. Understanding and leveraging these demographics is crucial for fostering an inclusive and innovative workplace

culture.

3.7.2 Factor Analysis

In this study, factor analysis is conducted using SPSS to extract common factors from survey data on employees' psychological capital, including optimism, hope, psychological resilience, and self-efficacy. By analyzing the correlations between variables, EFA identifies underlying structures, reduces data dimensionality, and thereby enhances the interpretation of the constituent factors of psychological capital. This step aids in simplifying complex data, allowing subsequent regression analyses to focus more on variables.

3.7.3 Multiple Regression Analysis

Multiple regression analysis examines the impact of employees' psychological capital on their innovative performance in internet technology companies. By constructing regression models, one can quantify the predictive effects of employees' psychological capital (e.g., self-confidence, optimism, resilience) on innovative performance and explore the contribution of different psychological capital factors to innovative performance. This method reveals the independent influence of each psychological capital factor and analyzes their relative importance in innovative performance.

Chapter 4 Findings

4.1 Findings

In this study, a total of 385 questionnaires were collected, with an effective rate of 77.0%. Descriptive statistical analysis was conducted on the collected data, which conformed to a normal distribution. Based on the assumed relationships between variables, correlation analysis was performed on variables. Pearson correlation analysis was used to determine the correlation and significance between variables. Finally, research conclusions were drawn.

4.1.1 Demographic Characteristics of Participants

In terms of gender, there were 186 males, or 48.3% of the total, and 199 females, or 51.7% of the total. In terms of age distribution, there were 64 or 16.6% of participants aged 18-25; the same number of participants aged 26-30 and 31-35, with 51 or 13.2% each; the largest number of participants aged 36-40, with 121 or 31.4%; and 98 or 25.5% of participants aged 40 or older. Overall, this sample is close to balance in terms of gender and dominated by those aged 36-40. As shown in Table 4.1, the sample as a whole met the statistical requirements.

Table 4.1 Distribution of Gender and Age of Sample

Item	Options	Frequency	Percent%
Gender	Male	186	48.3
	Female	199	51.7
Age	18-25	64	16.6
	26-30	51	13.2
	31-35	51	13.2
	36-40	121	31.4
	Over 40	98	25.5
Total		385	100.0

Table 4.2 Distribution of Education, Position and Tenure of Sample

Item	Options	Frequency	Percent%
Education	Bachelor's degree	126	32.7
	Master degree	137	35.6
	Higher than the Master's degree	122	31.7
Position	Operation	94	24.4

	Manager/senior	101	26.2
	Lecturer/instructor	101	26.2
	Other	89	23.1
Tenure	Less than/or equal to 5	122	31.7
	Between 6-10	49	12.7
	Between 11–15	52	13.5
	16 and over	112	29.1
Total		385	100.0

The data show the distribution of the sample group in terms of education level, position, and years of work experience. In terms of education level, a bachelor's degree accounted for 32.7%, with 126 participants; a master's degree accounted for 35.6%, with 137 participants; those higher than a master's degree accounted for 31.7%, with 122 participants. In terms of position distribution, 94 participants, or 24.4%, were engaged in operations; 101 participants, or 26.2%, held managerial or senior positions; 101 participants, or 26.2%, were likewise lecturers or instructors; and 89 participants, or 23.1%, held other positions. In terms of years of service, 122 or 31.7% have worked for 5 years or less; 49, or 12.7% have worked for 6-10 years; 52, or 13.5% have worked for 11-15 years; and 112, or 29.1% have worked for 16 years or more.

Data analysis can conclude that the sample group is more balanced in terms of education level, and the proportion of higher education (master's degree and above) is close to 67.3%, showing that the overall education level is higher. The distribution of positions is relatively even, with the number of positions in the categories of operation, manager/senior positions, and lecturer/instructor close to each other, accounting for about one-fourth or so respectively. In terms of years of working experience, although a significant portion of the population has worked for a relatively short period (31.7% for 5 years or less), close to one-third of the sample group has worked for more than 16 years, showing that the sample group includes both a relatively large number of newcomers as well as experienced veteran employees. This diversity helps to analyze the impact of different years of experience and positions on various factors, as shown in Table 4.2.

Table 4.3 Descriptive Statistics of Variables

Various	N	Minimum	Maximum	Mean	Std. Error
Q1	385	1	5	3.69	1.140
Q2	385	1	5	3.60	1.190
Q3	385	1	5	3.52	1.203
Q4	385	1	5	3.63	1.152
Q5	385	1	5	3.65	1.122
Q6	385	1	5	3.59	1.213
Q7	385	1	5	3.75	1.016

Q8	385	1	5	3.75	1.158
Q9	385	1	5	3.65	1.191
Q10	385	1	5	3.62	1.180
Q11	385	1	5	3.74	1.157
Q12	385	1	5	3.58	1.267
Q13	385	1	5	3.71	1.257
Q14	385	1	5	3.41	1.115
Q15	385	1	5	3.50	1.073
Q16	385	1	5	3.58	1.023
Q17	385	1	5	3.67	1.112
Q18	385	1	5	3.58	1.013
Q19	385	1	5	3.61	1.096
Q20	385	1	5	3.60	1.049
Q21	385	1	5	3.58	1.131
Q22	385	1	5	3.72	1.122
Q23	385	1	5	3.64	1.135
Q24	385	1	5	3.82	1.284
Q25	385	1	5	3.76	1.121
Q26	385	1	5	3.51	1.049
Q27	385	1	5	3.63	1.033
Q28	385	1	5	3.74	1.035
Q29	385	1	5	3.73	1.118
Q30	385	1	5	3.69	1.140

Table 4.3 is a statistical analysis of the responses to 30 questions (Q1 to Q30), with a sample size of 385 individuals for each question. The response range for each question is from 1 to 5. The average scores for all questions range between 3.41 and 3.82, with standard errors between 1.013 and 1.284. According to the data, the average scores for most questions are around 3.5, indicating that respondents generally hold a neutral to positive attitude. In terms of standard errors, the values are relatively close, suggesting that the variation in scores for each question is relatively stable and that respondents did not express significant extreme opinions when answering these questions. Respondents' views on most questions are uniform, with no obvious deviations. The data reflect that respondents' average evaluations of all questions are relatively positive. These data provide a comprehensive perspective on respondents' attitudes and opinions, indicating an overall positive evaluation trend. See Table 4.3.

4.1.2 Correlation Analysis

Correlation analysis requires a connection or probability between the elements. It

involves studying the relationships between various groups. Correlation analysis has undoubtedly become one of the greatest methods in statistical analysis. It is most effective for two sets of continuous variables that are approximately normally distributed and linearly related. The value of the Pearson correlation coefficient is a statistical measure that indicates the degree of linear association between two variables. The value of the correlation coefficient is represented by 'r', where 'n' is the sample size, representing the observed values and means of the two variables. 'r' indicates the degree of linear correlation between two values; a larger absolute value of 'r' indicates a stronger correlation. The analysis results below show that the correlation between the two variables reaches 99%. Since the correlation coefficient is greater than zero, there is a positive correlation between the two variables.

Table 4.4 Correlation Between Variables (Pearson Correlation Matrix)

	Optimism	Hope	Psychological Resilience	Self-efficacy	Innovative Performance
Optimism	1	.473**	.502**	.539**	.502**
Hope	.473**	1	.459**	.413**	.436**
Psychological Resilience	.502**	.459**	1	.609**	.530**
Self-efficacy	.539**	.413**	.609**	1	.559**
Innovative Performance	.502**	.436**	.530**	.559**	1

NOTE：*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

The variables included in the correlation analysis are optimism, hope, psychological resilience, self-efficacy, and innovative performance. The table shows the two-tailed Pearson correlation coefficients between the variables, with ** indicating statistical significance. See Table 4.4.

The correlation coefficient between optimism and hope is .473, indicating a moderate positive correlation between them. The correlation coefficient between optimism and psychological resilience is .502, indicating a moderately high positive correlation. The correlation coefficient between optimism and self-efficacy is .539, indicating a strong positive correlation. The correlation coefficient between optimism and innovative performance is .502, indicating a moderately high positive correlation between optimism and innovative performance.

The correlation coefficient between hope and psychological resilience is .459, indicating a moderate positive correlation between them. The correlation coefficient between hope and self-efficacy is .413, indicating a moderately low positive correlation. The correlation coefficient between hope and innovative performance is .436, indicating a moderate positive correlation between hope and innovative performance.

The correlation coefficient between psychological resilience and self-efficacy is .609, indicating a strong positive correlation between them. The correlation coefficient between psychological resilience and innovative performance is .530, indicating a strong positive correlation. The correlation coefficient between self-efficacy and innovative performance is .559, indicating a strong positive correlation between them.

4.1.3 Multiple Regression Analysis

Table 4.5 Multiple Regression

Model		Unstandardized Coefficients		t	Sig.	VIF	R Square	Adjusted R Square
		B	Std. Error					
1	(Constant)	2.294	0.126	18.217	0.000			
	Optimism	0.386	0.034	11.369	0.000	1.000	0.252	0.250
2	(Constant)	1.878	0.145	12.963	0.000			
	Optimism	0.293	0.037	7.864	0.000	1.288		
	Hope	0.203	0.038	5.282	0.000	1.288	0.303	0.300
3	(Constant)	1.561	0.146	10.726	0.000			
	Optimism	0.202	0.038	5.320	0.000	1.485		
	Hope	0.130	0.038	3.406	0.000	1.407		
	Psychological Resilience	0.253	0.038	6.612	0.000	1.460	0.375	0.370
4	(Constant)	1.303	0.149	8.744	0.000			
	Optimism	0.141	0.038	3.660	0.000	1.633		
	Hope	0.112	0.037	3.029	0.000	1.419		
	Psychological Resilience	0.160	0.041	3.901	0.000	1.793	0.417	0.411
	Self-efficacy	0.244	0.046	5.267	0.000	1.813		
a Dependent Variable: Innovative Performance								

All correlation coefficients between the variables are positive, indicating good positive correlations among these psychological traits. In particular, self-efficacy has higher correlations with other variables, especially psychological resilience and innovative performance, suggesting that self-efficacy may play an important role in innovative performance and psychological resilience. In practical applications, these findings may suggest that enhancing individuals' optimism, hope, psychological resilience, and self-efficacy may promote their innovative performance. Especially self-efficacy, with the highest correlation with innovative performance, may be one of the key factors in enhancing innovative ability.

In Model 1, the path coefficient for optimism (β=0.386, p=0.000<0.001) is significant. In Model 2, which adds hope to Model 1, the path coefficients for optimism (β=0.293, p=0.000<0.001) and hope (β=0.203, p=0.000<0.001) are significant, and R Square increases significantly from 0.252 to 0.303. In Model 3, which adds psychological resilience to Model 2, the path coefficients for optimism (β=0.202, p=0.000<0.001), hope (β=0.130, p=0.000<0.001), and psychological resilience (β=0.253, p=0.000<0.001) are significant, and R Square increases significantly from 0.303 to 0.375. In Model 4, which adds self-efficacy to Model 3, the path coefficients for optimism (β=0.141, p=0.000<0.001), hope (β=0.112, p=0.000<0.001), psychological resilience (β=0.160, p=0.000<0.001), and self-efficacy (β=0.244, p=0.000<0.001) are significant, and R Square increases significantly from 0.375 to 0.417. The hierarchical regression analysis shows that each variable has a significant impact on employees' innovative performance. See Table 4.5.

Therefore, according to the results of the data analysis, optimism has a significant positive effect on the innovative performance of employees in Internet technology enterprises. Hypothesis H1 holds. Hope has a significant positive effect on the innovative performance of employees in Internet technology enterprises. Hypothesis H2 holds. Psychological resilience has a significant positive effect on the innovative performance of employees in Internet technology companies. Hypothesis H3 holds. Self-efficacy has a significant positive effect on the innovative performance of employees in Internet technology companies. Hypothesis H4 holds.

4.2 Discussion

4.1.1 Optimism Has a Significant Positive Effect on the Innovative Performance of Employees in Internet Technology Enterprises

In the study of the influence of psychological capital on employee innovative performance in Internet technology enterprises, optimism of psychological capital has a significant positive effect on employee innovative performance. The regression coefficient of optimism as an important component of psychological capital (β=0.141, p=0.000<0.001) indicates that optimism has a significant effect on the enhancement of employee innovative performance. Hypothesis H1 is valid. Optimism, as an important dimension of psychological capital, significantly contributes to the innovative performance of employees in Internet technology companies. When improving employees' innovative ability and performance, enterprises should pay attention to

cultivating and maintaining employees' optimism, and enhance employees' psychological capital through various ways, to provide strong support for the continuous innovation and development of the enterprise (Zhao et al., 2020).

4.1.2 Hope Has a Significant Positive Effect on the Innovative Performance of Employees in Internet Technology Enterprises

The regression coefficient of hope as an important component of psychological capital (β=0.112, p=0.000<0.001) indicates that hope has a significant effect on the enhancement of employee innovative performance. Hypothesis H2 is valid. Hope, as an important dimension of psychological capital, significantly contributes to the innovative performance of employees in Internet technology companies. When improving employees' innovative ability and performance, enterprises should pay attention to cultivating and enhancing employees' sense of hope, and enhance employees' psychological capital by setting clear goals and providing necessary support and resources, to provide strong support for the continuous innovation and development of the enterprise (Dawson, 2017).

4.1.3 Psychological Resilience Has a Significant Positive Effect on the Innovative Performance of Employees in Internet Technology Companies

Psychological resilience, as an important component of psychological capital, has a regression coefficient (β=0.160, p=0.000<0.001) indicates that psychological resilience has a significant effect on the improvement of employee innovative performance. Hypothesis H3 is valid. Psychological elasticity, as an important dimension of psychological capital, significantly contributes to the innovative performance of employees in Internet technology companies. When improving employees' innovative ability and performance, enterprises should pay attention to cultivating and improving employees' psychological resilience, and enhance employees' psychological capital by providing psychological support, training, and development opportunities, to provide a solid foundation for the sustainable innovation and development of the enterprise (Cheng et al., 2020).

4.1.4 Self-Efficacy Has a Significant Positive Effect on the Innovative Performance of Employees in Internet Technology Companies

The regression coefficient of self-efficacy as an important component of

psychological capital (β=0.244, p=0.000<0.001) indicates that self-efficacy has a significant effect on the enhancement of employee innovative performance. Hypothesis H4 is established. Self-efficacy, as an important dimension of psychological capital, has a significant positive effect on the innovative performance of employees in Internet technology enterprises. Enterprises should emphasize the cultivation and enhancement of employees' self-efficacy when improving their innovative ability and performance, and enhance their psychological capital by providing training and development opportunities (Göçen, 2019), establishing a supportive work environment, and encouraging employees to learn on their own, to provide strong support for the sustainable innovation and development of the enterprise.

Table 4.6 Hypothesis Test Results

NO.	Hypothesis	Result
H1	Optimism has a significant positive effect on the innovative performance of employees in Internet technology enterprises.	Established
H2	Hope has a significant positive effect on the innovative performance of employees in Internet technology enterprises.	Established
H3	Psychological resilience has a significant positive effect on the innovative performance of employees in Internet technology companies.	Established
H4	Self-efficacy has a significant positive effect on the innovative performance of employees in Internet technology companies.	Established

Chapter 5 Conclusion and Recommendation

5.1 Conclusion

Optimism has a significant positive effect on employee innovative performance in Internet technology companies. Optimism is a positive psychological state that enables employees to maintain a positive mindset and belief that they can overcome obstacles and achieve their goals when facing challenges and difficulties. This positive psychological expectation can inspire employees to work with higher enthusiasm and motivation, thus encouraging them to show more creativity and innovation at work. An optimistic mindset also improves the team atmosphere and work environment. When members are optimistic, they are more likely to support and encourage each other to overcome difficulties at work (Corbu et al., 2021; Fayombo, 2010). This positive team atmosphere not only helps to improve individual innovative ability but also promotes collaboration and innovation of the whole team.

Hope has a significant positive effect on employee innovative performance in Internet technology companies. Hope is a positive psychological state that reflects employees' strong belief in future goals and their motivation to achieve goals. Employees with a high sense of hope usually possess clear goals and believe they can find ways and means to achieve them. This positive team environment not only promotes individual innovative performance but also contributes to the collaborative innovation and performance improvement of the whole team (Vella & Pai, 2019).

Psychological elasticity has a significant positive effect on the innovative performance of employees in Internet technology enterprises. Psychological resilience refers to an individual's ability to recover quickly and move on when facing pressure, setbacks, and adversity. Employees with high psychological resilience can adjust their mindset when they encounter challenges and failures at work so that they can continue to engage in their work (Wong et al., 2021). Psychological resilience also promotes collaboration and support among employees. Employees with high psychological resilience can not only maintain a positive mindset in the face of their difficulties but also help and support their colleagues around them, forming a mutually supportive team atmosphere. This team atmosphere can enhance team cohesion and collaboration, which promotes the team's overall innovation and performance (Dawson, 2017).

Self-efficacy has a significant positive effect on the innovative performance of employees in Internet technology enterprises. Self-efficacy refers to an individual's

belief in his or her ability to accomplish a specific task. Self-efficacy also promotes employee learning and development. Employees with high self-efficacy usually have strong independent learning abilities and curiosity, and they actively seek new knowledge and skills. This process of continuous learning and development not only enhances their innovative ability but also brings more innovation resources and motivation to the team and the organization (Shih et al., 2020; Zhao et al., 2020).

5.2 Recommendation

5.2.1 Maintaining Employees' Optimism

When examining the impact mechanism of psychological capital on employee innovative performance in internet technology enterprises, sustaining employees' optimism is a pivotal factor. These enterprises should cultivate a supportive and positive work environment to ensure that employees feel cared for and recognized by the company. This can be achieved through the establishment of a robust company culture, provision of mental health support, and employee benefits. For instance, regular mental health seminars and one-on-one psychological counseling can assist employees in better coping with stress and challenges, thereby maintaining an optimistic mindset. Leaders play a crucial role in this context; they need to lead by example, conveying positive messages and attitudes. By regularly communicating with employees and listening to their opinions and feedback, leaders can enhance employees' sense of belonging and trust. Furthermore, leaders should encourage open communication, helping employees establish positive colleague relationships that foster collaboration and mutual support.

Internet technology enterprises should set clear goals to make employees feel work is meaningful and manageable. Through the setting and achievement of 阶段性 goals, employees can gradually accumulate confidence and a sense of accomplishment, which is vital for maintaining optimism. Simultaneously, enterprises can provide continuous learning and development opportunities to help employees enhance their skills and professional expertise, making them more confident and optimistic when facing new challenges. Internet technology enterprises can motivate employees' innovative behaviors through recognition and reward mechanisms. Timely and fair recognition not only boosts employees' self-efficacy but also strengthens their expectations of future success, thereby maintaining an optimistic attitude. For example, annual innovation awards and project outcome exhibitions can be used to commend employees or teams

that excel in innovation.

5.2.2 Enhancing Employees' Sense of Hope

In studying the impact mechanism of psychological capital on employee innovative performance in internet technology enterprises, enhancing employees' sense of hope is crucial. Enterprises need to communicate the company's vision and future development direction, allowing employees to understand the significance and value of their work. Through regular all-hands meetings, strategy launches, and communication from the leadership, employees can perceive the company's prospects and their roles within it, enhancing hope for the future. Internet technology enterprises should provide ample career development opportunities and resources, enabling employees to see a path for personal growth. By establishing internal promotion mechanisms, and offering vocational training and development plans, employees can clarify their career development directions and feel the company's emphasis and support for their long-term growth. Career guidance and mentoring conducted by Internet technology enterprises can also assist employees in setting and achieving personal career goals, enhancing their confidence and hope for the future.

Leadership plays a vital role in enhancing employees' sense of hope. They need to adopt a positive leadership style, encouraging employees to set challenging but achievable goals and providing support and guidance when employees encounter difficulties. Leaders' trust and encouragement can help employees overcome challenges, see the possibility of success, and thereby enhance their sense of hope. Internet technology enterprises should create a motivating and recognizing work environment. Through recognition and reward mechanisms, timely acknowledge employees' efforts and achievements, making them feel valued and contributory. Such incentive measures can not only boost employees' self-efficacy but also make them hopeful and expectant about their future efforts. Internet technology enterprises should establish a mutually supportive team culture. Through team-building, cross-departmental collaboration, and communication, enhance trust and support among employees, so that when facing challenges, they no longer feel isolated but instead sense the collective strength and hope.

5.2.3 Improving Employees' Psychological Elasticity

In studying the mechanism of how psychological capital influences employee innovative performance in Internet technology enterprises, enhancing employees'

psychological resilience is a crucial aspect. Internet technology enterprises should create a supportive work environment that fosters employees' adaptability in the face of challenges. This can be achieved by establishing a strong corporate culture, providing mental health support, and offering employee benefits. Organizations can regularly conduct mental health seminars, stress management training, and team-building activities to help employees learn how to better cope with work pressures and setbacks, thereby enhancing their psychological resilience. Leaders play a pivotal role in enhancing employees' psychological resilience. They need to demonstrate positive and resilient attitudes, setting examples by confronting difficulties and challenges themselves. Through regular communication and feedback, leaders can promptly understand employees' mental states and work conditions, providing necessary support and guidance. Additionally, leaders should encourage employees to learn and grow from failures rather than merely criticize and blame. Such a leadership style helps employees maintain a positive mindset in the face of setbacks, gradually strengthening their psychological resilience.

Internet technology enterprises can also assist employees in balancing work and life by implementing flexible work arrangements. Allowing employees to flexibly schedule their work hours as needed and offering remote work options enables them to adjust and respond to personal life challenges. This flexibility not only reduces work-related stress but also enhances employees' loyalty and satisfaction with the company. Establishing robust social support networks within Internet technology enterprises is also crucial for enhancing psychological resilience. Enterprises can encourage employees to form mutual assistance groups, fostering teamwork and communication. By sharing experiences and supporting each other, employees will no longer feel alone when confronted with challenges. Regular team-building activities and social events can strengthen trust and support among employees, making them feel the power and security of the collective in their work.

5.2.4 Enhancing Employees' Sense of Self-Efficacy

In investigating the mechanism of psychological capital that influences employee innovative performance in Internet technology enterprises, enhancing employees' self-efficacy. Internet technology enterprises must provide employees with clear objectives and expectations. By setting well-defined and achievable work goals, employees gain a comprehensive understanding of their responsibilities and anticipated outcomes. When employees have a precise vision of what they need to accomplish, and when these goals are feasible, they are more confident in their ability to complete tasks, which is

crucial for bolstering self-efficacy.

The support and feedback from leaders play a significant role in enhancing employees' self-efficacy. Leaders should communicate with employees, offering constructive feedback and guidance while acknowledging their efforts and achievements. This not only aids employees in refining their work approaches but also enables them to feel valued, thereby boosting their self-confidence. Furthermore, leaders should encourage employees to experiment and innovate in their work, viewing failures as opportunities for learning and growth.

Internet technology enterprises should establish incentive and recognition systems. Through annual awards, project bonuses, and public praise, enterprises can elevate employees' self-efficacy, making them feel that their work is valued and appreciated. Such positive reinforcement not only reinforces employees' confidence but also ignites their creativity and motivation for future endeavors.

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Appendix Questionnaire

Dear Sir/Madam,

Thank you for your participation in this questionnaire survey. The survey will be conducted anonymously, and your relevant information will be kept confidential. Thank you again for your cooperation.

Part Ⅰ:

1. Gender □Male □ Female

2. Age A 18-34 B35-44 C45-54 D above 54

3. Education 1. Bachelor's degree □ 2. Master degree
□ 3. Higher than the Master's degree 4. Other

4. Position 1. Operation □ 2. Manager/senior
□ 3. Lecturer/instructor □ 4. Other.....

5. Tenure in current position (year)
□ 1. Less than/or equal to 5 □ 2. Between 6-10
□ 3. Between 11–15 □ 4. 16 and over

Part Ⅱ: Please judge to what extent you agree with the following statement, please choose the most appropriate option, and mark the corresponding number "√". The questionnaire used Likert scale, ranging from 1 to 5 in which 1 indicates strongly disagree (or strongly disagree), 2 indicates relatively disagree (or relatively disagree), 3 indicates neutral, 4 indicates relatively agree (or relatively agree), and 5 indicates strongly agree (or strongly agree)

Measuring item	Strongly disagree	Disagree	General	Agree	Strongly agree
I believe I can overcome any difficulties in my work.					
I am full of confidence in my future work.					

I always anticipate that things will develop in a positive direction.					
Even in the face of setbacks, I can maintain a positive mindset.					
I am convinced that my efforts will lead to success.					
I have developed detailed plans to achieve my work goals.					
Even when encountering obstacles, I will find new ways to achieve my goals.					
I am hopeful about my professional future.					
I always actively seek various avenues to accomplish my work objectives.					
When things do not progress smoothly, I do not give up easily.					
After encountering setbacks at work, I can recover quickly.					
Faced with stress, I can remain calm and find solutions.					
I can learn from failures and continually improve.					
Even in the face of significant challenges, I can maintain emotional stability.					
I am capable of dealing with uncertainty and changes in my work.					
I am confident in my ability to perform current work tasks.					
I have faith in my performance at work.					
I can efficiently complete all tasks assigned to me.					
Even with heavy workloads, I can manage my time and resources effectively.					
I can solve various problems encountered in my work.					

I frequently propose new work ideas and improvement suggestions.					
My innovative ideas can be practically applied in my work.					
I can creatively solve problems in my work.					
My innovative behavior has a positive impact on the team's work.					
I actively participate in the implementation of company innovative projects.					
My proposed innovative solutions have been recognized by colleagues and superiors.					
My innovative achievements have made practical contributions to the company's business development.					
I can independently think and propose innovative solutions in my work.					
I can quickly adapt to the use of new technologies and tools.					
My working style is flexible and I can adjust to different work environments and requirements.					