

The guiding role of the Internet economic supply chain management model based on management psychology on the negative emotions and behavioral mechanisms of interested audiences

Chun-Shu Liang

Associate Professor, Guangzhou College of Technology and Business, Guangzhou, China

Corresponding author, Email: liangchunshu1984@gmail.com

Abstract

This study investigates the guiding role of an innovative Internet economic supply chain management (IE-SCM) model, grounded in management psychology, in mitigating negative emotions and influencing the behavioral mechanisms of interested audiences, specifically supply chain enterprise leaders. The current Internet economy landscape, characterized by an imperfect market and legal environment, often fosters mutual distrust, anxiety, unease, and tension among stakeholders due to fear of virtual supply chain risks, talent mobility issues, and social responsibility conflicts. The primary objective was to understand these existing challenges, analyze the root causes of negative emotions, and then innovate the IE-SCM model using principles of management psychology. The aim was to achieve rapid response, flexible management, and zero-time-lag information transmission to meet customer requirements, enhance market competitiveness, and ultimately alleviate negative emotions and guide beneficial behaviors of stakeholders. The research employed an experimental design involving 54 randomly selected supply chain leaders, categorized into young, young and middle-aged, and middle-aged groups. Their psychological states (anxiety, unease, tension) and views on the IE-SCM model were assessed before and after the implementation of the innovative management approach. Data were processed using SPSS software, utilizing a 1-5 scoring scale where lower scores indicated reduced negative emotions.

Results demonstrated a significant improvement in the negative emotional states of all participant groups following the intervention. Before the model innovation, subjects exhibited higher scores across anxiety, unease, and tension dimensions. Post-intervention, negative emotions were alleviated to varying degrees, with a maximum score change of 26 points, showing significant statistical differences ($P<0.05$) compared to pre-experiment data. Mental health scores across ten dimensions also markedly improved ($P<0.05$) after the optimized management model was applied. In conclusion, the innovative IE-SCM model, informed by management psychology, effectively reduces negative emotions such as anxiety and tension among stakeholders, substantially enhancing their mental well-being. This model facilitates seamless information flow and improved customer satisfaction, underscoring the critical importance for future enterprise operators to leverage management psychology in optimizing supply chain management for sustainable development and improved stakeholder well-being.

Keywords: Management psychology, Internet economy, Supply chain management model, Benefit audience, Negative emotions

Introduction

The research content of management psychology is the law of people's psychological activities in organization and management. Its main task is to explore the psychological basis for improving business activities, find various ways to motivate employees' psychology and behavior, and maximize employees' enthusiasm, creativity and productivity. Its research mainly focuses on the specific social psychological phenomena in organizational management, as well as the specific psychological activity laws of individuals, groups, organizations and leaders (Rafferty Alannah E & Griffin Mark A,2006).

Management psychology belongs to a marginal discipline, which integrates the research contents of multiple disciplines, such as psychology, sociology, etc. This psychology can also become behavior management, which can be applied in human resource management. It can also understand the behavior and psychological changes of the research object through the knowledge of this psychology, so as to promote the normal development of research. With the continuous development of network technology and economy, the Internet economy has been formed. Its technical basis is modern information technology, and its carrier is the electronic Internet. The development of the Internet economy promotes the rapid development of e-commerce and the change of enterprise management mode. Supply chain is the carrier of enterprise logistics and other related components. The supply chain is composed of internal and external supply chains. Enterprises can carry out effective integrated management of the supply chain to achieve the goals of high quality and low cost (LI Chun-You, SD Shan,2008).

However, there are still some problems in the current Internet economy supply chain management. Due to the imperfect market and legal environment, the supply chain benefit audience is prone to mutual distrust, and there will be anxiety and other negative emotions due to the fear of the dangers of the virtual supply chain. Moreover, some enterprises may even do harm to other benefit audiences under the trend of interests. Being worried about this phenomenon will aggravate the negative emotions of benefit audiences. What's more, there are still some problems in the human resource management of supply chain enterprises. Under the influence of the Internet economy, the application of information technology, artificial intelligence, AI technology and other technologies has improved work efficiency, changing the attitude of enterprises towards employment, and enhancing the capacity of enterprises to accommodate personnel. On the other hand, the application of these information technologies will help the enterprise employees quickly collect more employment information, enabling them to obtain more job opportunities, thereby enhancing employee mobility. Therefore, under the influence of the internet economy, talent is easily lost, and the loss of core talents in enterprises will reduce their competitiveness. This is also the reason for the negative emotions of the benefit audience, who fear that their own interests will be affected. This negative emotion will be directly reflected in their behavior, hoping to cultivate and retain more core talents. In addition, while the supply chain of the Internet economy develops, it also needs to assume corresponding

social responsibilities. This process is supervised by the public, so that each interest audience in the supply chain will restrict their own behavior. When it conflicts with interests, these interest audiences will also have negative emotions such as irritability and tension.

To sum up, the development of Internet information technology has made the economic development model no longer limited to a single traditional form, and the flow of resources and talents has made the current economic development form and model gradually show a trend of diversification and rejuvenation. The development momentum of commercial enterprises is good, and the enterprise management mode under the operation mode of the Internet economy has also undergone great changes accordingly. As an important carrier of enterprise logistics and other related components, the supply chain can effectively realize the sharing of information resources among enterprises and resist external market sharing (Guo Y, et al., 2001; Bhasin M K., 2018). Therefore, the quality of the supply chain management model has an intuitive and obvious impact on the development of enterprises under the Internet economic situation. However, under the current management status, the benefit audiences involved in the supply chain management model are unaware of risks and interests. Consideration of exclusivity, irregularity of management, unpredictability of resource flow and other concerns make the business trust mechanism between enterprises limited, which makes it difficult to promote the reasonable flow of resources and talents, which has caused great difficulties for the development of enterprises. Obstacles also make the corresponding supply chain and economic entities have negative emotions and negative psychology, which is not conducive to the long-term development of their individuals and the whole enterprise (Kurbanova N., 2019; Yang C, et al., 2019; Aripova N., 2020). Based on the relevant theories of management psychology, the research explores the guiding role of the Internet economic supply chain management model on the negative emotions and behavioral mechanisms of the benefit audiences, in order to help the relevant benefit audiences relieve their negative emotions and improve their mental health.

1. Analysis of the Influence Mechanism of the Internet Economy Supply Chain Management Model on the Benefit Audience from the Perspective of Management Psychology.

1.1 The guiding role of the supply chain management model of the Internet economy on the emotions and behaviors of interested audiences

The Internet economy based on modern information technology has been formed and developed rapidly, which has greatly changed people's way of life. At the same time, it has also promoted the rapid development of e-commerce and the reform of enterprise management models, so that it is no longer limited to a single and traditional model for development (Mekonen EG., et al, 2021) Supply chain management mode refers to a management mode that is composed of internal and external supply chains, and it is a management mode that reasonably handles logistics and resource scheduling and allocation. The quality of its management mode reflects its overall coordination and scheduling of resources to a certain extent. Capability is also one of the important contents of the overall development of an enterprise. However, the relative laxity of the market economy and the short development time of the Internet economy make it easier for various economic audiences under the supply

chain model to have conflicts and conflicts of interest. The reason is that the Internet economy is promoting the rational flow of talents and resources. While providing channels and methods, it also increases the difficulty of resource integration, which affects the trust mechanism between various economic interested audiences (Mimiaga M, et al, 2019). At the same time, the legal system in the market environment is not sound enough. Most of the interested audiences are in the maintenance of their own interests, the competition for market share and the uncontrollability of risks, so they are more likely to show irritability, nervousness, tension, etc. in the form of Internet economic development. Negative emotions and problems such as anxiety (Rezayat M R,et al 2020). While the supply chain of the Internet economy is developing, it also needs to undertake corresponding social responsibilities and is subject to the supervision of the public. Correspondingly, this also invisibly increases the restriction and legitimacy of the economic entities of enterprises on their own behavior. The setting of the degree of interest framework makes it also produce emotional fluctuations and related behavioral mechanisms when faced with conflicts of interest and contradictions (Riyadi I, 2020). Figure 1 shows the guiding role of the supply chain management model of the Internet economy on the emotions and behaviors of interested audiences.

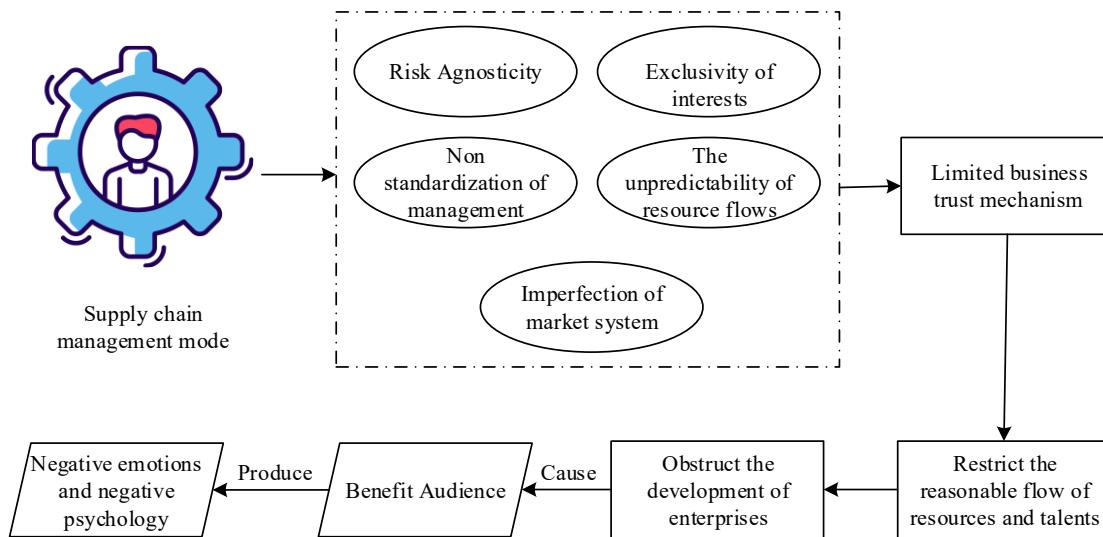


Fig.1 The guiding role of the Internet economy supply chain management model in the interest audience's emotion and behavior

1.2 Optimization of the internet economy supply chain management model from the perspective of management psychology

The research content of management psychology is the psychological activity patterns of people in organization and management. It mainly stimulates employees' psychology and behavior by exploring the psychological basis of improving business activities to maximize employees' enthusiasm, creativity and productivity. The psychological theory of realizing the overall development plan of the enterprise. The research scope of management psychology is not to study the whole of individuals, but to explore the specific psychological activities of individuals, groups, organizations and leaders by limiting the scope of research to organizational management activities. We better understand the psychological characteristics behind the management work, in order to improve

the quality and efficiency of enterprise management (Karamchandani K, et al,2020). Under management psychology, the subject behavior in organizational management activities has certain rules, and behind these rules, people's psychological activity mechanism is hidden, that is, it believes that the subject behavior in the social organization is very closely related to psychology Therefore, the psychological laws and conditions of management subjects in organizational activities have a more important relationship with the development of the overall enterprise (Mansiroglu A K, et al, 2020)

The negative emotions displayed by the audience in the supply chain management mode are the negative emotional experience of their current performance or unknown things, including short-term suddenness and long-term continuity. There are many reasons for negative emotions, such as market environment, Factors such as individual affordability and economic ability will trigger the generation of negative emotions (Keilman L J,et al, 2021; Kensbok J M, et al, 2022). To improve the management model of the Internet economy supply chain with the help of management psychology, it is necessary to innovate its management model, realize zero-time-lag information transmission through rapid response and flexible management, meet customer needs, improve market competitiveness, and win more for the benefit audience. And actively guide the behavior of the benefit audience, realize a flexible and agile operation mechanism, improve the trust between the benefit audience, and then achieve the application effect of alleviating their negative emotions. Figure 2 is a schematic diagram of the optimization idea of the Internet economy supply chain management model from the perspective of management psychology.

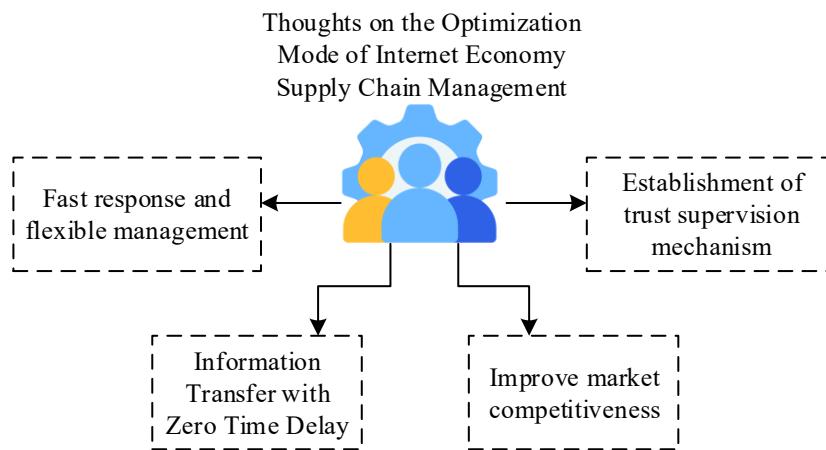


Fig.2 The thought pattern of optimizing the Internet economy supply chain management mode from the perspective of management psychology

1.3 Experimental design and data processing

Enterprises can carry out effective integrated management of the supply chain to achieve high-quality and low-cost goals, and guide the behavior of the audience and stakeholders by setting a reasonable and effective management model, regulate their commercial behavior, and establish a trust mechanism at the same time, reduce the occurrence of psychological problems. This research is based on the current situation and problems of the supply chain management model of the Internet economy, randomly selects 54 supply chain leaders as the research objects, analyzes the reasons for their negative emotions, and uses the theoretical knowledge of management

psychology to innovate the supply chain management model, and multiple improvements were made from aspects such as information transmission, resource flow, and the construction of trust mechanisms, as well as psychological intervention for benefit audiences.

54 randomly selected suppliers were divided into three groups: young, middle-aged, and middle-aged. The age distribution of the youth group is between 20 and 30 years old, the age distribution of middle-aged and young people is between 31 and 44 years old, and the age distribution of the middle-aged group is between 45 and 59 years old.

In the course of the experiment, with the help of relevant psychological scale tools, data collection and relevant effective records are carried out to collect data on the changes of leaders' negative emotions and behavioral mechanisms under the management innovation model. At the same time, SPSS software was used for data processing during the experiment. When analyzing the data, the scores were replicated by weights on a scale of 1-5, with lower scores indicating less impact. At the same time, in order to facilitate the expression of the research results, the research uses the mean \pm standard error as the result, and the test method is repeated variance test. The formula for calculating the standard error is formula (1)

$$S = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n-1}} \quad (1)$$

In formula (1), the standard error is S , the number of samples is, the mean of n the i sample is X_i , and the mean is \bar{X} .

2. Analysis of the Guiding Role of the Innovative Internet Economy Supply Chain Management Model on the Negative Emotions and Behavioral Mechanisms of Interest Audiences

The Internet economy supply chain management model involves a wide range of subjects, and the economic interests involved are relatively complex. Therefore, the emotional changes caused by the differences and inappropriateness of management methods and methods will have a greater impact on economic development. This research collected data on the negative emotions exhibited by the subjects during the experiment, and the results are shown in Table 1.

Table 1 Changes in negative psychological emotions of the subjects during the experiment

Age group	Anxious		Uneasy		Nervous	
	Before the reform	After the reform	Before the reform	After the reform	Before the reform	After the reform
Young people	55.17±3.62	29.76±3.34	56.36±3.55	38.45±3.21	55.41±3.39	40.37±2.74
Young and middle-aged groups	56.34±2.12	34.23±3.41	58.74±4.42	39.37±4.15	57.51±2.04	38.48±2.87
Middle aged group	56.55±3.53	37.45±3.39	57.23±3.57	37.44±3.42	56.34±3.24	26.64±1.29
t	0.154	2.431	0.326	2.636	0.152	2.869
P	0.738	0.012	0.639	0.002	0.057	0.000

The results in Table 1 show that before the innovation of the supply chain management model, the research subjects of the three age groups showed higher scores in the three dimensions of anxiety, restlessness and tension, and the score difference was small. The negative emotions displayed by the subjects were improved in different degrees, and the maximum change in the score was 26 points, and the data had significant statistical differences compared with those before the experiment ($P < 0.05$). The mental health status scores of the subjects during the experiment were counted, and the results are shown in Table 2.

Table 2 Mental health score of subjects during the experiment

/	Before model improvement	After model improvement	P
Depression	2.42	1.90	<0.05
Anxiety	2.01	1.55	<0.05
Paranoid	1.99	1.77	<0.05
Somatization	2.14	1.79	<0.05
Obsessive-compulsive symptoms	1.89	1.38	<0.05
Interpersonal relationship	2.47	1.52	<0.05
Hostility	2.52	1.77	<0.05
Fear	2.33	1.22	<0.05
Psychotic	2.44	1.61	<0.05
Other	2.26	1.89	<0.05

The results in Table 2 show that before the improvement of the supply chain model, the scores of the 10 dimensions of the mental health scale of the research subjects were all above 1.5 points, which were higher than

the scores after the improvement. The data changes before and after the experiment were quite different. There was a significant statistical difference ($P < 0.05$).

Objective

Understand the current situation of the supply chain management mode of the Internet economy, the negative emotions and behavior of the benefit audience, and analyze the reasons for the negative emotions of the benefit audience. Based on the knowledge of management psychology, the supply chain management model of Internet economy is innovated. Through rapid response and flexible management, information transmission with zero time lag can be realized, customer requirements can be met, market competitiveness can be improved, and more benefits can be earned for the benefit audience, which helps to alleviate the negative emotions of the benefit audience. Under the careful management mode, it guides the behavior of the interest audience, realizes the flexible and agile operation mechanism, improves the trust among the interest audiences, and improves their sense of security.

Methods

The research object is the leaders of supply chain enterprises. Fifty-four leaders of a supply chain were randomly selected to understand their basic personal information, their psychological status and their views on the supply chain management model of Internet economy, and to analyze the reasons for their negative emotions. Innovate the Internet economy supply chain management mode, study the changes of negative emotions and behaviors of leaders under the Internet economy supply chain management innovation mode, and record relevant data. In the processing and analysis of relevant data, SPSS software is used for data processing. Grade 1-5 is adopted, and the lower the score, the lighter the degree.

Result

The results showed that before implementing the innovative supply chain management model, participants across all three age groups—young adults, middle-aged adults, and older adults—had high scores in anxiety, unease, and tension, with only minor differences in scores between groups. This indicated that, prior to the intervention, all groups experienced similar levels of stress and worry. After the application of the developed supply chain management model, these negative emotions improved to varying degrees across the groups. For example, in some groups, the reduction in scores reached up to 26 points. A comparison of pre- and post-intervention data revealed statistically significant differences ($P < 0.05$). These findings indicate that the supply chain management model effectively alleviated participants' anxiety, unease, and tension, clearly demonstrating its efficacy and suitability in improving participants' mental state and overall well-being in practical contexts.

Conclusion

The rapid development of the Internet economy has provided more convenient conditions for the development of enterprises, and it has also had a greater impact on its management model. When resources are in normal flow, it is very important for enterprises to give full play to their advantages and seize development opportunities. In view of the problems existing in the current supply chain management model and its influence on the negative emotions and behavioral mechanisms of the beneficiaries, this research is based on the relevant theories of management psychology to innovate the management model. The experimental results show that the optimized management model can achieve. The zero-delay information transmission meets the needs of customers, effectively relieves the negative emotions such as anxiety and anxiety of the interested audience and greatly improves their mental health level. The data changes before and after the experimental intervention are quite different. Therefore, in the future enterprise management, operators should be good at using management psychology to optimize the management mode.

References

Aripova, N. (2020). Tasks of situational analysis in psychology of management. *Bulletin of Science and Practice*, 6(4), 388–393.

Bhasin, M. K. (2018). Behavioral risk management: Managing the psychology that drives decisions and influences operational risk. *Financial Analysts Journal*, 74(1), 108–109.

Guo, Y., Liu, B., & Luo, H. (2021). Discussion on the strategy of improving the teaching effect of management psychology: Based on expected value theory. *Education Study*, 3(1), 55–60.

Karamchandani, K., & Dubule, V. K. (2020). Job anxiety and occupational stress among employees of IT sector: Impact on their attitude towards management. *International Journal of Engineering and Management Research*, 10(3), 37–44.

Mansiroglu, A. K., Erer, M., Cogun, M., & [next authors if any]. (2020). Is ionizing radiation a risk factor for anxiety in employees? *Revista da Associação Médica Brasileira*, 66(12), 1685–1689.

Keilman, L. J., Harris, M., & Bronner, S. (2021). 300 – Increasing complexity awareness of Parkinson disease psychosis: Risk factors, symptoms, diagnosing and management. *International Psychogeriatrics*, 33(S1), 19–20.

Kensbok, J. M., Alkrsig, L., & Lomberg, C. (2022). The epidemic of mental disorders in business—How depression, anxiety, and stress spread across organizations through employee mobility. *Administrative Science Quarterly*, 67(1), 1–48.

Kurbanova, N. (2019). On the role of the leader in management psychology. *Bulletin of Science and Practice*, 5(3), 383–386.

Li, C.-Y., & Shan, S. D. (2008). Analysis of the current situation of information disclosure concerning supply chain in the listing company's annual report. *China Business and Market*.

Mekonen, E. G., Workneh, B. S., Ali, M. S., & [next authors]. (2021). The psychological impact of COVID-19 pandemic on graduating class students. *Psychology Research and Behavior Management*, 14, 109–122.

Mimiaga, M., Closson, E., Pantalone, D., & [next authors]. (2019). Applying behavioral activation to sustain and enhance the effects of contingency management for reducing stimulant use among individuals with HIV infection. *Psychology, Health & Medicine*, 24(3), 374–381.

Rezayat, M. R., Yaghoubi, S., & Fander, A. (2020). A hierarchical revenue-sharing contract in electronic waste closed-loop supply chain. *Waste Management*, 115, 121–135.

Riyadi, I. (2020). The contribution of applied psychology for educational management issue. *Psychosophia Journal of Psychology Religion and Humanity*, 1(2), 136–149.

Rafferty, A. E., & Griffin, M. A. (2006). Perceptions of organizational change: A stress and coping perspective. *Journal of Applied Psychology*.

Yang, C., Hu, X., Gu, W., & [next authors]. (2019). Research on the construction of SPD intelligent logistics. *Chinese Journal of Medical Instrumentation*, 43(6), 462–465.