

Research on Middle-Section Employee Turnover Tendency and Headhunting Matching Mechanism

Ziwei LI¹ and Chunling ZUO

Business School of Beijing Wuzi University, China

Abstract. Headhunting is an important channel to allocate professional talents, and employee turnover has always been a key topic for the company and human resources researchers. Based on the analyses of the primary data of human resource service companies, this paper uses game theory to view the resignation of middle-section employees from the perspective of a headhunter, and the results show that the turnover is mainly about the increase in salary; the men employees tend to get more income than the female; the tendency of employees to seek cross-region configuration and cross-professional and cross-industry configuration affects the headhunting configuration pattern, and the alliance becomes a stable game decision in the simulated three-way game. Finally, the corresponding suggestions are put forward to provide a new perspective for promoting the allocation of human resources in China.

Keywords. Headhunter matching, man-post configuration mechanism, trilateral game

1. Introduction

Employee turnover is a hot topic for human resources researchers and organizations. As the mainstay of the organization, the turnover of middle employees has attracted more attention. In China's labor market, middle-course employees refer to those who are mainly aged 25-35, have 5-10 years of work experience, and have an annual salary of about 200,000-300,000 yuan, mostly in the middle-section positions in the organization. Middle employees undertake most of the tasks in the organization, linking senior managers and grass-roots staff. For output enterprises, their departure lead to enterprise project interruption, organization cohesion decline, even collective departure, etc., in the society, affect the external social reputation of the enterprise, lead to the internal important data outflow, and many other negative effects. For imported enterprises, compared with campus recruitment, hunting enterprises do not need to spend large-scale training costs; compared with their own employees, hunting employees inject new blood, and even obtain more industry resources and technical information. For headhunters, on the one hand, there are tens of thousands of headhunting companies in China. This imbalance between supply and demand makes it very difficult to hunt senior employees; on the other hand, they have low hunting fees and have little benefit to the career development of headhunters. Therefore, benefiting from the combination of matching middle-section employees and supporting hunting enterprises is the main mechanism to

¹ Corresponding Author, Ziwei Li, Business School of Beijing Wuzi University, China; E-mail: 2585486082@qq.com.

obtain wealth and reputation in the recruitment format with headhunting intervention. At the same time, compared with multinational headhunting companies and large headhunting companies, China accounted for more local small headhunting company disadvantage is obvious, there are many reasons[1], unable to obtain the trust of talent and enterprises. In order to improve the matching rate of headhunting companies, it is of positive practical significance to view the turnover tendency of employees for both individuals and the society.

2. Literature Review

Employee turnover is an important way of staff turnover, and staff turnover is of great significance to the rational allocation of human resources in the company. Summarizing the existing research, this paper mainly discusses employee turnover from three aspects: employee level, company level and the interaction between employees and the company. Headhunters can start from these aspects, enrich the information of talents and hunting companies, and connect them more efficiently and accurately.

From the individual level of employees, organizational identity[2] and organizational commitment negatively predict employees' turnover intention, and external job perception regulates this negative relationship[3]. The superficial role adopted by employees has a significant positive predictive effect on turnover intention, and emotional exhaustion partially mediates this relationship[4]. Employees' mental health, living conditions[5] and skill level[6] will also affect their turnover intention.

From the company level, first of all, the company's mechanized[7] and overloaded[8] environment, whether employees perceive fair salary distribution[9] have a significant negative predictive effect on their turnover intention, and the competitive salary provided by enterprises can inhibit employees' turnover and retain talents[10]. Secondly, in the corporate atmosphere, according to the self-cognition theory, employees' personal fair experience can influence their evaluation of organizational fair atmosphere. If employees feel that the organizational atmosphere is not fair enough, they will have personal turnover intention[11,12], in which organizational cohesion plays an intermediary role[13,14]; Open and inclusive environment[15], procedural fairness[16], interactive fairness[17] and organizational support[18] also have significant negative effects on employees' turnover intention; According to the social exchange theory, through mutual communication and information sharing, employees will form a common perception of fairness in the organization as to whether they are treated fairly or unfairly. When the common perception of fairness is low, they will have collective turnover intention[19]. Finally, on the charisma of leaders, exploitative leaders have a significant positive predictive effect on employees' turnover intention, and employees' negative emotions play a partial intermediary role in it. Compared with highly traditional individuals, low traditional individuals have more negative emotions influenced by exploitative leaders, which leads to stronger turnover intention[20]; The expression of leaders' gratitude will reduce employees' willingness to leave, and the power distance of employees can regulate this relationship. Compared with employees with high power distance, employees with low power distance are more willing to communicate with leaders, thus gaining more opportunities for leaders to express their gratitude[21]. However, corporate social responsibility behavior[22] and functional employer brand[23] will respectively enhance employees' job satisfaction and career satisfaction, and weaken employees' intention to leave[24].

From the interaction level between employees and the company, the interaction between employees and enterprises has started from the interview. At this time, employees have two kinds of psychological expectations, namely, the promises made by the company during recruitment and the expectations of employees for the company and work. If the organization fails to perform or the "ideal" is inconsistent with the reality, it may lead to the rupture of employees' psychological contract, thus promoting the formation of turnover intention[25], that is, the gap between employees' expectations can positively predict their turnover intention[26]. Generally speaking, the more consistent the expected organizational support is with perceived organizational support, the lower the turnover intention of employees is[27]. At work, the consistency of organizational career management and human resource management intensity negatively predicts employees' turnover intention[28], and mandatory citizenship behavior can positively predict employees' turnover intention, and this prediction has a nonlinear threshold effect: when mandatory citizenship behavior is infrequent, the positive prediction is not significant, on the contrary, this positive prediction is significantly improved[29].

According to the employment data report of mid-term and high-end talents launched by Liepin Big Data Research Institute in February 2022, 30-40% of employees have the idea of leaving jobs. Relative to through only enterprise and talent participation mode, through the main way to realize employees work reconfiguration is through the headhunting match, one is that they feel respected, the second is through the headhunting can get accurate match, have better service, three is in the later career, through the headhunting can get more timely and accurate news. The study found that compared with enterprises negotiating with talents alone, the intervention of headhunters has more obvious benefits to the development of talent[30]. Employees perceived in the work of the individual attitude, emotions and adjust controllable factors, such as leadership style, task characteristics, etc., these may subtly influence the tendency of employee turnover factors[31], because the company in-depth investigation and a comprehensive understanding of talent, there is no basic because of talent whitewash or inadequate understanding with the company and leave. There are three situations where headhunters match between support hunters and support hunters: alliance with support hunters, alliance and non-alliance with support hunters. Because the information of the three parties is not equal, which way to choose is the process of the three-party game, which has a great impact on the subsequent matching success and the turnover rate of the candidates after the entry.

The premise of the tripartite game between headhunter, company and candidate is that neither party has the possibility to benefit by withdrawing from matching or private agreement. Anyone reporting truthfully is the best strategy[32], and all three parties expect to maximize their own interests. For headhunters, hunting for high-level talents is more valuable than low-level talents, because hunting for high-level talents can not only improve their success rate of recommending talents, but also help to improve their reputation in the industry. However, headhunters can get the entrustment money of enterprises without hunting suitable talents, and they do not hunt hard. It takes high cost and time and energy for headhunters to hunt hard for talents. At this time, headhunters have two measures: hunting hard and hunting hard. For the hunter, the effort of the headhunter will determine whether the enterprise can find the right talents. If the talents are found, they will indeed bring higher profits to the enterprise. If the matching talents are not suitable, the enterprise will bear high economic losses and time costs, and the headhunter will also suffer reputation losses. In order to obtain suitable talents quickly, the hunting company often entrusts several headhunting companies at the same time. At

this time, there are also games between headhunting companies, hunting companies and several headhunting companies. In the negotiation between talents and headhunters, we will also consider whether the enterprise has met its demand for salary and promotion, and compare it with the on-the-job enterprise or other opportunities before deciding whether to join the job. For example, if a talent puts forward a higher salary requirement, it will make it difficult for headhunters to match, or even impossible to match. However, if the salary requirement is lower, the agency fee of headhunters will be reduced accordingly. At the same time, talents sometimes whitewash their skills, past experiences, etc., which takes time and cost for headhunters to identify. If not, headhunters will face reputation loss. In this process, talents are faced with the crisis of "leakage", which leads to the failure of application, and will also bear the sunk cost brought by whitewashing. For talents, if they know that the headhunter has a high probability of taking an attitude of discrimination, they will give up the act of whitewashing. If they know that the headhunter has a high probability of not taking an attitude of discrimination, they may take chances to whitewash themselves.

In the process of hunting, headhunting company will first understand the customer's industry, business, strategy and other specific information[33], using big data platform, data warehouse, AI algorithm and more, according to the responsibility of the required talent screening resume accurate selection target, then a more comprehensive more depth of background investigation, to verify intention, the resume to the hunting enterprise. According to the stakeholder theory, employees are one of the stakeholders of the enterprise, and they have a complex relationship network with other stakeholders, so their resignation decision-making process will inevitably make comprehensive judgment, weigh various relationships[34]. Employees believe that the organization should do obligations mainly include to provide safe work environment, fair pay, training opportunities and provide support for private issues[35], the information is not before employees can fully understand, so in the process of talent hunting, the best job seekers "fitness" for two levels of evaluation, one is with the organization's norms, culture and atmosphere of the overall compatibility match, the second is whether its personality characteristics with the company[36]. To reduce the high willingness of employees to leave due to the excessive consumption of emotional resources at work and not getting timely supplement (i.e., emotional exhaustion). Integrating the existing studies, It can be found that most scholars analyze employee turnover from the perspective of psychology or management, Analyzing the mental state of his resignation, And what company characteristics can lead to employees to leave; Regarding the analysis of the headhunters, Most of the literature analyzes the reasons for the low matching rate in the operating mechanism of headhunting companies, Very little literature combines the two factors of headhunters and employee turnover tendency, a quantitative study on how the three parties play games to maximize the common interests, Not only does it help improve headhunting matching, And has a positive effect on reducing unemployment and job satisfaction, therefore, It is of positive practical significance to view the problem of employee turnover tendency from the perspective of headhunter matching.

Previous studies have not established a logical connection between turnover intention and post reallocation, nor have they accurately simulated or predicted the benefit output of allocation mechanism through econometric methods. Based on the first-hand case data of automobile manufacturing industry, this study will establish an analytical framework between turnover intention of middle-section employees and headhunting matchmaking through economic and statistical methods, so as to enrich and develop the theory of staffing. Provide suggestions for headhunters to improve the

matchmaking rate, and promote headhunters to play a better role in the allocation of human resources in China, so as to achieve a win-win effect among companies, headhunters and talents.

3. Methodology

3.1 Description of the sample

The data of this paper comes from Liepin Company, the first three-way interactive platform for professional talents, enterprises and headhunting in China, and once became the largest middle and advanced career development platform in China. Therefore, it is feasible to base it on Liepin's data. The data of this paper mainly involve the automobile manufacturing industry, and the sample number is 379, which is described and analyzed next.

As shown in Table 1, the academic qualifications of the samples are widely distributed, with the largest number being master's degree, accounting for 69%. Professionally, the number of middle-section employees in functional majors is small, while that of middle-section employees in technical majors is strong, which is in line with the current situation that most positions in automobile machinery manufacturing enterprises are professional and technical positions. The average age of the sample is 31.69 years, and the working years are 7.01 years, which is in line with the age and working years of middle-section employees. As shown in the histogram of working years distribution, the overall distribution is normal. The left end of the curve is thicker than the tail of the right end. The average annual salary of middle-section employees with intention to leave is 252,300 yuan, and the expected salary is 302,200 yuan. At present, the standard deviation of salary is 10.769, and the expected standard deviation of salary is 10.919, indicating that the salary distribution is wide, and some employees' salary is far below 250,000 yuan. At present, the standard deviation of salary is almost the same as that of expected salary, which indicates that the middle-section employees who have worked in the automobile industry for 5 to 7 years have formed an implicit contract based on the market, and expect that the salary after leaving the company is about 5w higher than the current salary. This salary jump is a key reference indicator for headhunters, where headhunters, hunters and support hunters play a three-way game around the mean formed by the implied contract.

Table 1. Sample description

Professional status		Be on the job			Leave office	
gender		89%			11%	
		man			woman	
		75%			25%	
academic degree	universities and colleges		undergraduate course	master	doctor	
		1%		29%	69%	1%
specialized subject	electrical	vehicle engineering	legal	accounting	human resources	material
	52%	18%	3%	8%	11%	8%
Workplace	Beijing	A city near Beijing	Motor City		Shanghai	other
	71%	11%	7%		3%	8%
		average			standard deviation	
age		31.69			3.74	
working life		7.01			3.528	
Current salary		25.23			10.969	
Expected salary		30.22			10.918	

3.2 Factors influencing turnover intention of middle-section employees

In order to study the three-party game mechanism with headhunting intervention, the factors of employee turnover tendency are first empirical analyzed to explore the influencing factors of the equilibrium point of the game mechanism. According to the descriptive statistical results, it can be seen that the influencing factors of the resignation intention of the middle-section employees roughly include three factors: improvement of income, improvement of living environment and improvement of unit social reputation.

3.2.1 Income improvement

As shown in Table 2, the current average salary of male middle-section employees with intention to leave is 258,700 yuan, and the expected average salary is 311,700 yuan, with a difference of 53,000 yuan; The average salary of female middle-section employees with intention to leave is 232,700 yuan at present, and the expected salary is 272,900 yuan. The difference between them is 40,200 yuan. It shows that men's expectation of salary increase is higher than women's. The $\text{sig} < 0.01$ in the independent sample tests indicates that men had higher expected turnover capital increase expectations than women were statistically significant.

Table 2. Data table on income improvement of gender for turnover intention

Gender conversion			Statistic	Standard error
Current salary	man	average/mean value	25.87	0.627
	woman	average/mean value	23.27	1.154
Expected salary	man	average/mean value	31.17	0.629
	woman	average/mean value	27.29	1.176

3.2.2 Improvement of living environment

As shown in Table 3 and Table 4, based on the geographical perspective, the influence of income on turnover intention is as follows. The salary of non-Beijing hunters is expected to improve more than that of Beijing hunters.

Table 3. Data table on the influence of improvement of living environment on turnover intention

Change of working place			Statistic	Standard error
Current salary	Beijing	average/mean value	27.12	0.651
	Non Beijing	average/mean value	20.57	0.916
Expected salary	Beijing	average/mean value	31.65	0.682
	Non Beijing	average/mean value	26.69	0.899

Table 4. Data sample inspection table

		Levene test of variance equation		T test of mean value equation						
		F	Sig.	t	df	Sig. (bilateral)	Mean difference	Standard error value	95% confidence interval of difference	
									lower limit	upper limit
Expected salary	Assuming equal variance	3.919	0.048	4.082	376	.000	4.959	1.215	2.570	7.347
	Assumed variance is not equal			4.393	236.341	.000	4.959	1.129	2.735	7.182

The data in the above table shows that the current salary of middle-section employees in Beijing with intention to leave is 271,200 yuan, and the expected salary is 316,500 yuan, the difference between them is 45,300 yuan; The current salary of middle-section employees in non-Beijing areas who intend to leave is 205,700 yuan, and the expected salary is 266,900 yuan. The difference between the two is 61,200 yuan, which is influenced by the increase of living cost, except the amount of implied contracts in the market. Therefore, the turnover intention to improve income based on regional changes can pass the test, which is statistically significant.

From Table 5 and Table 6, it can be found that for the change of workplace, there are more men than women among middle-section employees who are not in Beijing, indicating that men's intention to improve the environment by working in different places is higher than that of women.

Table 5. Cross tabulation of gender conversion * workplace conversion

		Count		
		Change of working place		sum up
Gender conversion	man	Beijing	Non Beijing	
	woman	190	96	286
		80	13	93
sum up		270	109	379

Table 6. Data sample inspection table

Chi-square test					
	value	df	Gradual Sig. (bilateral)	Exact Sig. (bilateral)	Accurate Sig. (one-sided)
Pearson chi-square	13.269 ^a	1	.000		
Continuous correction ^b	12.326	1	.000		
likelihood ratio	14.677	1	.000		
Fisher's exact test				.000	.000
And linear combination.	13.234	1	.000		
N in a valid case	378				
a. The expected count of cell 0.0 (0.0%) is less than 5, and the minimum expected count is 26.82					
b. only calculate for 2×2 table					

3.2.3 *Work circle layer transformation*

From Table 7, it can be found that among the middle-section employees who have intention to leave, 5.52% expect to change their working circle in Beijing. It is expected that the conversion within the automobile industry accounts for 5.41%; Cross-border work from science and technology, technology, information and engineering accounts for 6.33%. It shows that for automobile enterprises, changing the working circle in Beijing and realizing the work change within the automobile industry are the mainstream expectations of hunters who have the intention of leaving their jobs.

Table 7. Statistical table of working circle layer

Company name keywords	Word frequency	Percentage (%)
Beijing	96	5.52
automobile	94	5.41
science and technology	51	2.93
technology	39	2.24
investment	20	1.15
energy	17	0.98
firm; office; agency	10	0.58
information	10	0.58
engineering	10	0.58

3.3 Matching between the current position and the expected position

3.3.1 Jekard similarity coefficient of "recommended position-current position"

In the employment process of employees in the middle section, the headhunting team can judge the difficulty of hunting according to the matching between the current position and the expected position, so as to provide reference for the process of talent hunting. Based on the matching nature of the current and expected positions, calculate the Jekard similarity coefficient for the "recommended post-current position". The formula is $J(A, B) = \frac{A \cap B}{A \cup B}$, that is, the intersection, division and union of two positions, where A and B represent the recommended position and the current position respectively, and represent the proportion of the intersection elements of recommended position and current position in union. The results are shown in Table 8 below.

Table 8. Jekard's similarity coefficient of representative posts

	Recommended post frequency	Current post frequency	Jiekade similarity coefficient
Steering system engineer	15	12	0.8
SAP system engineer	13	7	0.538
Senior human resources manager	21	5	0.238
High-voltage three-in-one assembly Integration engineer	14	6	0.428
Human resources manager	19	24	0.791
Human resource supervisor	5	6	0.833
Human resources specialist	4	7	0.571
Audit Commissioner	3	4	0.75
Intelligent driving test engineer	25	8	0.32
Intelligent driving software engineer	25	5	0.2
Intelligent driving system engineer	2	7	0.285
General audit senior manager	18	13	0.722

It can be seen from the chart that there is a big difference in Jekard's similarity coefficient among representative positions. The similarity coefficient of the middle-section employees in functional positions is high, for example, the human position and audit position can reach 0.833 at the highest, which indicates that the matching degree between the current position and the expected position in functional positions is high; The similarity coefficient of the middle-section employees in skill positions is low, with a minimum of 0.2, which indicates that the matching degree between the current position and the expected position is low, and this mismatch further causes the headhunter's intention in the process of hunting the middle-section employees to be not smooth.

3.3.2 The ratio of supply and demand between the current position of engineers and the recommended position

Take the engineer position as an example, according to the supply and demand ratio between the current position and the recommended position, it can provide reference for hunting talents. As shown in Table 9, it can be found that in addition to the low matching between engineers and posts, the supply-demand ratio of recommended posts and current posts is also quite different. The supply-demand ratio of integration engineers is 1, while that of software engineers is 0. The higher the ratio of supply and demand, the greater the possibility of being hunted, and vice versa, which further illustrates the mismatch of engineer positions.

Table 9. Supply-demand ratio between recommended positions of engineers and current positions

	Recommended position	Current post	Supply and demand ratio
Test engineer	2	4	0.5
Product engineer	3	4	0.75
Software engineer	4	0	0
Design engineer	5	6	0.83
System engineer	3	10	0.3
Hardware engineer	2	1	2
Integration engineer	2	2	1
Process engineer	2	4	0.5

3.4 Expected salary and headhunting recommendation

On the basis of the above empirical evidence, in order to explore whether the hunters who have the intention of leaving the job expect to be accepted easily by enterprises with low salary, and the higher the salary period, the easier it is to be accepted by enterprises. The following will take "Senior Human Resource Manager Post" as an example to explore. The sample number of "Senior Human Resource Manager" is 11, and the expected salary is 385,500 yuan, with a standard deviation of 7.967.

Table 10 is the calculation table of recommendation degree of senior human resource managers by hunters calculated by collaborative filtering algorithm. The recommendation degree is influenced by the expected salary with a weight of 0.1, and the experience with a weight of 0.67. As can be seen from the table below, the highest theoretical recommendation is Hunter No.4, who has 15 years of working experience and expected salary of 501,000 yuan; The lowest recommendation rate is No.2 and No.11 hunters. Their working years are 9 years, and their expected salary is 321,000 yuan. Under the recommendation degree, the No.4 hunter was successfully matched, and his intention to leave was satisfied. However, in reality, it is the No.2 hunter and No.8 hunter that really match successfully. Their common feature is that their expected salary is low, especially on the 8th, with an expected salary of only 271,000 yuan. It can be inferred that, for some middle-section employees who have the intention to leave, salary is an important factor that affects the choice of enterprises, and it is also the most important factor that headhunters need to pay attention to if they want to succeed in hunting.

Table 10. Calculation table of post recommendation degree of senior human resources manager

Hunted candidate	1	2	3	4	5	6	7	8	9	10	11
Experience (0.67)	16	9	15	15	10	11	8	11	15	12	9
Salary (0.1)	-1.45	-6.45	6.55	11.55	3.55	-11.45	3.55	-11.45	8.55	3.55	-6.45
Recommendation degree	10.58	5.39	10.71	11.21	7.06	6.23	5.72	6.23	10.91	8.40	5.39

(Note: salary = expected salary-average expected salary; Recommendation = experience × coefficient+salary × coefficient (the coefficient is obtained by AHP))

3.5 Tripartite game mechanism among candidates, headhunters and hunting companies

In the game of headhunter, candidate and support unit, at least two parties need to join together to complete the headhunting configuration. If the hunter is combined with the

candidate, the interests of the candidate may be sacrificed, and the interests of the hunter may be lost. To investigate whether there are stable types of alliance in the three-way game in the head-hunting mechanism. The following will abstract the analytical framework based on the previous exploration.

It is assumed that there is no corruption such as asking for help in the matchmaking process. Suppose the three parties play a game against salary bargaining interval, other treatment conditions, potential matching stability and achievable performance commitment. In this case study, two situations can be considered about salary bargaining interval. First, consider the situation of 220,000-280,000 yuan; The second is to consider the situation of 300,000-500,000 yuan. Regarding other treatment conditions, it can be assumed that the game points are option allocation, position in the team, etc. Regarding the potential matching stability, the game points are the time limit of signing the labor contract and the probability of renewal. With regard to achievable performance commitment, the game space can be constructed by n times of salary contract.

Fitting with the real situation, the following settings can be made: (1) Regarding the attitude of the game points, each of the three parties may support some points, or be indifferent to some points, or oppose some points; (2) A certain discussion point can only be considered as passed with the support of at least two parties, and a match can only be reached; (3) The three parties can only be rewarded after a certain discussion point is passed; (4) The strength of a party's support for a discussion point can be expressed by numerical assignment. A positive number indicates support, a negative number indicates opposition, and 0 indicates indifference. If a discussion point is passed, the benefits it brings to all parties are consistent with the score points, as shown in Table 11.

Table 11. Strength of support of the three parties to the discussion point in the game

Discussion point		Tripartite game		
		Headhunter	Company	Hunters
1	Salary bargaining range (300,000-500,000)	+1	-3	+10
2	Other treatment conditions	-10	0	+9
3	Potential matching stability	+3	-10	+8
4	Achievable performance commitments	+6	+3	-10

Table 12 lists all possible combinations of game alliances, benefits and the passage of discussion points. In this case, the income of the three parties to a discussion point is greater than or equal to 0. For example, the alliance of headhunters and hunters will agree to point 1 (salary bargaining interval) and point 3 (potential matching stability). If the hunting is successful, the headhunter and the client will gain 4 and 18, while the client will lose 13.

Table 12. Combination of game alliance, income and pass of discussion point

Alliance structure		Pass the discussion point	Tripartite game		
			Headhunter C	Company T	Candidate R
1	(headhunter, company, candidate)	0	0	0	0
2	(headhunter, candidate), (company)	1, 3	4	-13	18
3	(company, candidate), (headhunter)	2	-10	0	9
4	(headhunter, company), (candidate)	4	6	3	-10
5	(headhunter), (company), (candidate)	0	0	0	0

In this game matrix, in the transition from any row to the fourth row, both headhunters and entrusted hunters can benefit from forming alliances and excluding hunters, so only the alliance structure in the fourth row is the core of the game.

Considering the salary bargaining situation of 220,000-280,000 yuan, the income matrix will be adjusted to Table 13. At this time, the expected income of the game alliance is shown in Table 14.

Table 13. Income matrix adjustment table

Discussion point		Tripartite game		
		headhunter	company	candidate
1	Salary bargaining range (220,000-280,000)	+1	+5	-2
2	Other treatment conditions	-10	0	+9
3	Potential matching stability	+3	-10	+8
4	Achievable performance commitments	+6	+3	-10

Table 14. Expected revenue of game alliance

Alliance		Pass the discussion point	Tripartite game		
			Headhunter C	Company T	Candidate R
1	(headhunter, company, candidate)	0	0	0	0
2	(headhunter, candidate), (company)	3	1	+5	-2
3	(company, candidate), (headhunter)	2	-10	0	9
4	(headhunter, company), (candidate)	1, 4	7	8	-12
5	(headhunter), (company), (candidate)	0	0	0	0

In the new salary game matrix, in the transition from any row to the fourth row, both headhunters and entrusted hunters can benefit from forming alliances and excluding clients. Therefore, the alliance structure in the fourth row is still the core of the new game.

When the expected salary is 300,000-500,000 yuan and 220,000-280,000 yuan, the following conclusions can be drawn: (1) In the headhunting game, the three parties must form an alliance to achieve the final match; (2) In the headhunting game, it is impossible for the three parties to form a grand alliance and benefit from each other; (3) It is not a stable pattern of matching people and posts that the trustee and the receiver form an alliance, leaving headhunting alone, and both the trustee and the receiver can only benefit from this pattern once; (4) The alliance between headhunting and entrusted hunters can form a stable core in the tripartite game, and the headhunting mode is sustainable. Therefore, headhunters should focus their services on comprehensively understanding and implementing the configuration requirements of the entrusted hunters.

4. Results

(1) Now the automobile machinery manufacturing enterprises have upgraded their employees' educational requirements to a bachelor's degree or above. (2) Compared with the functional category, the middle technical employees have a strong resignation intention. (3) Intermediate employees with less than 5 years are more likely to leave jobs than those with more than 15 years. (4) Intermediate employees who have worked in 5 to 7 years in the auto industry have formed an implicit contract based on the market, expect their salary to be about 50,000 yuan higher than the current salary. (5) Male middle-section employees expect higher salary increases through job-hopping than women, non-Beijing middle-course employees are higher than Beijing middle-section employees, and male non-Beijing employees have the highest expectations to improve their income level through turnover. (6) The positions and career planning chosen by the

middle-section employees with resignation intention all integrate their professional skills with related industries, so that their strengths can maximize their play in the allocation. (7) Mid-section employees with resignation intention have experienced cross-border development. These employees do not have too much boundary in their future career planning, their job selection is relatively broad, and there will be more matching degree between people and posts. (8) In the three-way game with headhunter involvement, headhunter and support hunter alliance is the most stable mode. Therefore, headhunters should focus on their services in fully understanding and implementing the configuration requirements of support hunters.

5. Conclusion

5.1 Conclusion

By using literature research, mathematical research and qualitative research, this paper analyzes the data, studies the turnover intention of middle-section employees from the perspective of headhunting, and draws the following conclusions. (1) middle-section employees expect to get a big salary improvement through hunting. The improved salary range has formed a relatively fixed reserve price. (2) Among the influencing factors of middle-section employees' turnover, the tendency of men to expect greater income improvement is higher than that of women. Considering the recommendation degree of headhunters, it is more difficult to match successfully. (3) In headhunting configuration, the hunter's tendency to seek cross-regional configuration, cross-professional configuration and cross-industry configuration is gradually gaining momentum. Especially for technical positions, the tendency of cross-discipline and cross-industry turnover is higher than that of functional positions. This mismatch between turnover intention and job requirements can only be matched by personalized and meticulous service of headhunting agencies. (4) The turnover intention of middle-section employees affects the headhunting configuration pattern. Under two different salary expectations, the alliance between headhunters and entrusted hunters becomes a stable game decision in the simulated tripartite game. It shows that the alliance between headhunters and entrusted hunters will still dominate the game pattern regardless of whether the expected salary of middle-section employees is in the high or medium range. The competitiveness of middle employees makes them lack substantial bargaining power in the tripartite game.

5.2 Suggestions

Based on the first-hand data during the epidemic period, the uncertainty of individual work has greatly increased in this special period of economic development, and at this time, there are still a large number of employees who intend to leave, which contains the more essential behavioral motivation of middle-section employees, as well as the deeper internal mechanism of the tripartite game of entrusting hunters, headhunters and hunters. Accordingly, the following suggestions are put forward: (1) Employees have a reasonable expected salary after job-hopping. If it exceeds this range, it may hinder them from finding a job smoothly. (2) The headhunter should consider comprehensively when matching the hunter with the hunting enterprise, such as the gender, household registration and current salary of the hunter. (3) For cross-industry and cross-specialty hunters, headhunters need to customize more personalized and detailed plans. It is more

effective for job seekers with cross-industry or cross-specialty job hunting needs to seek help from professional headhunters. (4) The alliance between headhunters and entrusted hunters can achieve the balance among the three parties, which is more helpful to promote the matching between entrusted hunters and the hunters.

References

- [1] Wang Y. Factors and Strategies Affecting the Efficiency Improvement of the Headhunting Recruitment Industry[J]. *Development of Human Resources*, 2017,(21):58-59.
- [2] El AA, Colaizzi G, Portoghese I, Galletta M, Battistelli A. How Organizational Support Impacts Affective Commitment and Turnover Among Italian Nurses: A Multilevel Mediation Model. *International Journal of Human Resource Management*, 2014,25(9),1185-1207.
- [3] Tang YH, Zhang HM, Zhang SZ. Perceived Equity in Salary Distribution, Perceived External Job Opportunities and Employee Turnover Intention[J]. *Financial and Accounting Correspondence*, 2019(3):118-122.
- [4] Zhao HJ, Xi YP. Emotional Labor and Employee Turnover Intention: the Role of Emotional Exhaustion and Perceived Organizational Support[J]. *Economic and Management Research*, 2017,38(2):80-86.
- [5] Amin Z, Akbar KP. Analysis of Psychological Well-being and Turnover Intentions of Hotel Empirical Study. *International Journal of Innovation & Applied Studies*, 2013,3(3),662-671.
- [6] He L. A Survey on the Turnover Intention of Skilled Personnel in Private Manufacturing Enterprises[J]. *Management of Research and Development*, 2017,38(S1):365-372.
- [7] Bakeeriswyl S, Krause A, Elfering A, et al. How Workload and Coworker Support Relate to Emotional Exhaustion: the Mediating Role of Sickness Presenteeism[J]. *International Journal of Stress Management*, 2017,24(S1):52-73.
- [8] Broetje S, Jenny GJ, Bauer GF. the Key Job Demands and Resources of Nursing Staff: an Integrative Review of Reviews[J]. *Frontiers in Psychology*, 2020,11(6):1-17.
- [9] Guan Y, Wen Y, Chen SX, et al. When Do Salary and Job Level Predict Career Satisfaction and Turnover Intention Among Chinese Managers? the Role of Perceived Organizational Career Management and Career Anchor[J]. *European Journal of Work & Organizational Psychology*, 2014,23(4):596-607.
- [10] Li SL, Long LR, He W. A Study on the Relationship Between Executive Team Pay Differentials and Firm Performance: the Cross-layer Moderating Effect of Industry Characteristics[J]. *Nankai Management Review*, 2012,15(4):55-65.
- [11] Newman A, Thanacoody R, Hui W. the Impact of Employee Perceptions of Training on Organizational Commitment and Turnover Intentions: A Study of Multinationals in the Chinese Service Sector[J]. *the International Journal of Human Resource Management*, 2011,22(8):1765-1787.
- [12] Fields D, Pang M, Chiu C. "Distributive and Procedural Justice As Predictors of Employee Outcomes in Hong Kong"[J] *Journal of Organizational Behavior*, 2000,(21):547-562.
- [13] Wang ZJ, Mai S, Li WM. the Influence of Organizational Fair Climate on Employee Turnover Intention: A Moderating Effect Model of Corporate Social Responsibility Mediated[J]. *Management of Research and Development*, 2017,38(8):101-109.
- [14] Ni CH, Ye RS, Huang SC, Xia J. Perceived Organizational Support of Working Groups and Group Turnover: the Mediating Effect of Group Psychological Security and Group Cohesion[J]. *Management Review*, 2013,25(5):92-101.
- [15] Barbara G. Multilevel Relationships Between Organizational-level Incivility, Justice and Intention to Stay[J]. *Work&Stress*, 2010,24(4):309-323.
- [16] Jones FF. Pay Procedures and Voluntary Turnover: Does Procedural Justice Matter? *Psychological reports*, 1998,83(2):475-482.
- [17] Mansour-cole DM, Scott SG. Hearing It Through the Grapevine: the Influence of Source, Leader-relations, Legitimacy on Survivors' Fairness Perceptions. *Personnel Psychology*, 2006,51(1):25-54.
- [18] Bakker AB, Demerouti E. Job Demands-resources theory: Taking Stock and Looking Forward[J]. *Journal of Occupational Health Psychology*, 2016,22(3):273-285.
- [19] Ye RS, Ni CH, Xia J. A Review of the Research on Employee Group Turnover[J]. *Economic theory and Economic Management*, 2012(11):49-57.
- [20] Sun YD, Zhang YJ. Complaining and Job-hopping: the Influence of Exploitative Leadership on Employee's Complaining Behavior and Turnover Intention[J]. *Psychical Research*, 2022,15(03):236-245.

- [21] Zhu Z, Chen XW, Liu J, Fan XL, Xv B. A Study on the Effect of Leadership Gratitude Expression on Employee Turnover Intention: from the Perspective of “Self” and “Relationship”[J]. *Nankai Management Review*, 2022,25(2):80-89+123+90-91.
- [22] De GD, Schuyt TN, Breedijk M. Effects of an Employee Volunteering Program on the Work Force:the ABNAMRO Case[J]. *Journal of Business Ethics*, 2005, 61 (2):143-152.
- [23] Zhu F, Yue MQ, Zhang JX. A Study on the Influence Mechanism of the Consistency of Organizational Career Management and Human Resource Management Intensity on Employee Turnover Intention: the Mediating Effect of Occupational Satisfaction and the Moderating Effect of Employer Brand[J]. *Journal of Central University of Finance and Economics*, 2021(12):105-118.
- [24] Kim J, Song HJ, Lee CK. Effects of Corporate Social Responsibility and Internal Marketing on Organizational Commitment and Turnover Intentions[J]. *International Journal of Hospitality Management*, 2016,55:25-32.
- [25] Johnson, Jonathan L, Anne M. O’Leary-Kelly. “the Effects of Psychological Contract Breach and Organizational Cynicism: Not All Social Exchange Violations Are Created Equal.” *Journal of Organizational Behavior*, vol. 24, no. 5, 2003, pp. 627–47.
- [26] Wang CY, Zhao SM, Qing WP. A Study on Expectation Gap and Turnover Intention of New Generation Employees Based on Cross-level Moderated Mediation Model[J]. *Journal of Management*, 2021,18(5):633-642.
- [27] Chen K, Lin YH. Organizational Support Consistency and Turnover Intention: the Mediating Effect of Employee Well-being[J]. *Journal of Psychology*, 2017,49(12):1570-1580.
- [28] Zhu F, Yue MQ, Zhang JX. A Study on the Influence Mechanism of the Consistency of Organizational Career Management and Human Resource Management Intensity on Employee Turnover Intention: the Mediating Effect of Occupational Satisfaction and the Moderating Effect of Employer Brand[J]. *Journal of Central University of Finance and Economics*, 2021(12):105-118.
- [29] Song HJ, Chen YY. Mandatory Organizational Citizenship Behavior and Turnover Intention of New Generation Employees[J]. *Management of the Economy*, 2021,43(4):108-121.
- [30] Zhou Y, Zeng XQ. Research on the Effectiveness of Headhunting operation Practice Based on Enterprise and Managers[J]. *Management World*, 2008(1):96-104+188.
- [31] Babalola MT, Stouten J, Euwema M. Frequent Change and Turnover Intention: the Moderating Role of Ethical Leadership[J]. *Journal of Business Ethics*, 2016,134(2):311-322.
- [32] Qin SS. the Matching Mode and Function Boundary of Headhunting Company in Optimizing Human Resources[J]. *Modern Commerce and Trade Industry*, 2022,43(15):130-131.
- [33] Shi CY. Recruiting Like A Headhunter[J]. *Human Resources*, 2015, (18): 51-53.
- [34] Yang CJ, Ma QH, Zeng XF. Predicting Turnover from the Perspective of Retention: A Review of Work Embeddedness Research[J]. *Nankai Management Review*, 2010,13(2):105-118+131.
- [35] Robinson SL, Kraatz MS, Rousseau DM.Changing Obligations and the Psychological Contract: A Longitudinal Study. *Academy of Management Journal*, 1994,37(1),137-152.
- [36] Coverdill JE, William F. "Fit and Skill in Employee Selection: Insights from A Study of Headhunters." *Qualitative Sociology*,1998,21(2):105-127.