

pISSN: 1906 - 3296 © 2020 AU-GSB e-Journal.
eISSN: 2773 – 868x © 2021 AU-GSB e-Journal.
<http://www.assumptionjournal.au.edu/index.php/AU-GSB/index>

Influential Factors Impacting the Performance of Employees with Less Than Five Years of Work Experience in High-Tech Enterprises located in Chengdu, China

Sijie Ma*

Received: September 22, 2023. Revised: October 9, 2023. Accepted: October 12, 2023.

Abstract

Purpose: This study aims to explore the key factors that significantly influence employees' job performance in high-tech enterprises in Chengdu, China. The conceptual framework proposes the causal relationships between variables such as job engagement, innovative behavior, distributive justice, training, job satisfaction, organizational commitment, and employee job performance. **Research design, data, and methodology:** This study employed a questionnaire survey method and statistical analysis techniques to investigate 500 employees' job performance in high-tech enterprises who have less than five-year work experience. The researcher used Item-Objective Consistency (IOC) and Cronbach's Alpha to test the designed scales before distributing the questionnaire. Nonprobability and probability sampling methods are used, including judgmental and stratified random sampling. The collected data were subjected to statistical analyses, including Confirmatory Factor Analysis and Structural Equation Modeling, to assess reliability and validity and to analyze model fit. **Results:** The analysis of the research findings reveals that training, job engagement, distributive justice, job satisfaction, innovative behavior, and organizational commitment have a significantly positive impact on job performance among employees in high-tech enterprises. Nevertheless, Job satisfaction has no significant impact on organization commitment. **Conclusions:** This study provides recommendations for human resource management in high-tech enterprises, highlights research limitations, and suggests future research directions.

Keywords: Innovative Behavior, Organizational Commitment, Training, Job Satisfaction, Job Performance

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Due to the fast progress of technology, the influence of high-tech enterprises on the world was increasing daily, high-tech products were emerging one after another, the competition in the high-tech field was becoming increasingly fierce, and cutting-edge technology was updated and iterated at high speed. Under such a background, enterprises may miss technology and excess profits at any time and fall into trouble (Wang, 2020). In order to compete effectively in today's fast-paced and cutthroat global science and

technology industry, high-tech businesses need to demonstrate their knowledge-gathering and innovative prowess (Li et al., 2006). Many high-tech enterprises are exploring human resource management strategies and practices that align with their development strategies and operation status. They try to maintain their competitive advantage by improving employees' abilities and work performance (Hill & Rothaermel, 2003). In this context, many scholars and high-tech enterprise management began studying high-performance human resource management to improve employee and enterprise performance.

*Sijie Ma, Teaching Development Center Xihua University, China. Email: 409985744@qq.com

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Fu and Deshpande (2014) argued that employees who share common values with their employers and perceive employer care tend to exhibit higher organizational loyalty and better job performance. The study further confirmed that employee job satisfaction has a positive direct impact on organizational commitment and an indirect impact on job performance. The perceived justice of employees in the distribution process not only regulates the relationship between pay performance and job performance but also directly affects the work performance of R&D personnel (Chien et al., 2010). Rich et al. (2010) believe that job engagement means that individuals fully devote themselves to their roles, which positively correlates with the two dimensions of individual job performance. Zhang and Bartol (2010) found an inverted U-shaped relationship between creative work input and job performance of professional employees engaged in complex work in information technology companies.

According to the data, the number of high-tech firms in China has expanded from 2010 to 2019, and the yearly growth rate has been maintained at more than 15%. According to the relevant information provided by the State Administration of Taxation, the number of high-tech firms in China is anticipated to reach 275000 in 2020. The economic indicators of high-tech businesses are expanding at a rate proportional to the fast expansion in the total number of businesses. In 2019, China's high-tech firms would reach a total revenue of 45.1 trillion yuan, an increase of 15.9% yearly (Wang, 2020). Therefore, enhancing employees' performance in a dynamic environment and improving enterprises' competitiveness becomes particularly prominent. Among numerous influencing factors, which variables affect high-tech enterprises' innovative behavior, job satisfaction, and job performance and facilitate employee growth to provide sustained competitive advantages? These questions concern entrepreneurs engaged in specific business activities and are one of the hot topics studied by economists and management scholars. This is a highly challenging practical and theoretical issue, which also serves as the starting point for this research. This study aims to explore the key factors that significantly influence employees' job performance in high-tech enterprises in Chengdu, China.

2. Literature Review

2.1 Job Engagement

Salanova et al. (2005) pointed out that employee engagement can be regarded as a commitment and investment of employees to the enterprise regarding emotion and knowledge. This definition strengthens employees' desire to work, and their "willingness" improves work

efficiency. Employees work with highly dedicated people to realize their physical, cognitive, and emotional selves so that they can actively participate in the work (Kahn, 1990). Employees can develop professionalism Only when they combine themselves with their work roles (Schaufeli & Bakker, 2004). Macey and Schneider (2008) have conducted extensive research on the meaning and significance of job engagement. It is defined that job engagement as the psychological and behavioral engagement of employees in various states, and they also suggested that employee work engagement is a two-way relationship between employers and employees.

Employees who receive fair treatment and respect at work, as well as a reasonable salary level and fair task assignment, will use positive attitude and work behavior as a reward, with increased engagement being one of the positive behaviors (Schaufeli & Bakker, 2004). Employees can also be effectively and fully engaged in their work when they are confident, they will better accomplish their goals. Lee et al. (2006) demonstrated engagement's external and internal effects from an empirical perspective, helping researchers better understand the relationship between job engagement and job performance.

H1: Job engagement has a significant impact on innovation behavior.

H2: Job Engagement has a significant impact on job performance.

2.2 Innovation behavior

Innovation behavior refers to the generation, among others, of new products, services, production methods, and management processes that are potentially valuable. In fierce competition, it can promote companies' survival, innovation, and growth (West & Farr, 1989). In addition to creating ideas, innovation behavior also includes the implementation process of ideas. Innovation behavior refers to all action's employees undertake that involve generating, incorporating, or applying novel ideas in any aspect of their work. The dimensions of employee innovation behavior encompass both the generation of innovative concepts and the execution of these innovative concepts. (Thurlings et al., 2015). Innovative workers drive the competitive edge and enhancement of corporate performance among service companies. Scholars and practitioners have suggested that creative workers contribute to the company's success (Jafri, 2010).

H3: Innovation behavior has a significant impact on job performance.

2.3 Job Satisfaction

Job satisfaction and organizational commitment are two important job attitude variables that are good predictors of employees' behavioral tendencies and actual behavior and, to some extent, indirectly predict some organizational outcome variables (Mowday et al., 1979). Employees with high levels of organizational commitment have a greater propensity to work than other employees. They derive more satisfaction from their work and see it as fulfilling their personal needs. The more satisfied employees are, the more they are attached to their organizations (Brown & Peterson, 1993; Yang, 2010). Rayton's (2006) relevant study discovered a positive correlation between job satisfaction and organizational commitment.

H4: Job satisfaction has a significant impact on job performance.

H5: Job satisfaction has a significant impact on organizational commitment.

2.4 Organizational Commitment

Organizational commitment is the degree to which an employee identifies with the organization's aims and is willing to remain employed (Meyer et al., 1989). Employees have strong sentiments for the company, and as a result, they consider the identities of other organization members to be an integral component of their own lives. They are worried that they will suffer economic losses if they leave the organization and are willing to continue to pay emotionally and energy for the organization (Mowday et al., 1979). Jafri (2010) proposes that organizational commitment is important in achieving national goals, innovation performance, and maintaining organizational stability. Johnston et al. (1990) also showed that organizational commitment is highly complex and is an important performance factor.

H6: Organizational commitment has a significant impact on job performance.

2.5 Distributive Justice

Colquitt et al. (2012) researched the influence of perceived organizational fairness on employee job performance. The research findings indicated that informational fairness within organizational fairness significantly affects employee allocation fairness, procedural fairness, and employee work attitudes.

Aryee et al. (2004) suggests cognitive differences among employees regarding the returns they receive for their investment of time and energy within an organization. Consequently, the fairness of organizational practices becomes a crucial foundation for motivating employee work.

Grounded in the equity of reward distribution within the organization, employees are more likely to exert their efforts to gain greater rewards. When employees perceive that their efforts are rewarded appropriately, they can experience organizational fairness, which positively impacts employee job satisfaction and performance (Campbell & Finch, 2004). According to Witt and Nye (1992), a correlation exists between distributive justice and job satisfaction.

H7: Distributive justice has a significant impact on job satisfaction.

2.6 Training

Jex and Britt (2008) argue that organizational training creates more intangible value and increases employee commitment than other approaches; training can improve employees' satisfaction and commitment as a type of management and organizational help, reduce work anxiety, and motivate employees (Fletcher, 2016). Skill training was, therefore, directly linked to the commitment of employees. Elnaga and Imran (2013) think that training is the key link to keeping employees and jobs matching and is an important part of human capital theory. The training plan aims to promote the improvement of organizational efficiency and the realization of organizational goals.

H8: Training has a significant impact on job satisfaction.

H9: Training has a significant impact on organizational commitment.

2.7 Job performance

Job performance reflects the outcomes of employees achieving organizational goals and encompasses the processes they undertake to attain those objectives. Borman and Motowidlo (1997) categorize performance into task performance and contextual performance. Task performance pertains to behaviors stipulated by the organization or specific to particular roles, while contextual performance involves additional contributions to the organizational environment.

3. Research Methods and Materials

3.1 Research Framework

The conceptual framework of this study is developed based on the fundamental concepts of previous research frameworks and models. Gibbs and Ashill (2013) examined the strong and favorable impact of job satisfaction and organizational commitment on job performance and intention to stay. Kim and Koo (2017) investigated how LMX influences employee engagement, subsequently

affecting their creative behaviors and job performance. Crow et al. (2012) confirmed and extended prior research findings, demonstrating that organizational fairness significantly enhances employees' commitment to the organization. Job satisfaction is a key mediating variable in organizational fairness and commitment. Drawing from Lee et al. (2006) study, there is support for organizations to enhance employees' affective commitment by encouraging their participation in training programs. Additionally, a significant correlation exists between training and job satisfaction, and both training and career development planning play crucial roles in increasing job satisfaction and reducing employee turnover intentions. The conceptual framework of this study is proposed in Figure 1.



Figure 1: Conceptual Framework

H1: Job engagement has a significant impact on innovation behavior.

H2: Job engagement has a significant impact on job performance.

H3: Innovation behavior has a significant impact on job performance.

H4: Job satisfaction has a significant impact on job performance.

H5: Job satisfaction has a significant impact on organizational commitment.

H5: Job satisfaction has a significant impact on organizational commitment.

H6: Organizational commitment has a significant impact on job performance.

H7: Distributive justice has a significant impact on job satisfaction.

H8: Training has a significant impact on job satisfaction.

H9: Training has a significant impact on organizational commitment.

3.2 Research Methodology

According to Polonsky and Waller (2015), quantitative research methods generally go through four stages: identifying research objectives and questions, selecting data collection methods and instruments, conducting data analysis

and interpretation of results, and finally, making conclusions and recommendations. Therefore, the researcher in this study created a quantitative study to gather information using a questionnaire. In this research project, the researcher used questionnaires as the survey's primary research technique.

The preliminary examination comprised was carried out utilizing the Index of Item-Objective Congruence (IOC) and pilot testing. A panel of three experts evaluated the IOC, and their assessments revealed that each item on the scale received a rating of 0.6 or higher, indicating a satisfactory degree of congruence. Additionally, the pilot test (n=50) encompassed an assessment of the Cronbach's alpha coefficient for reliability, affirming robust internal consistency across all items. The computed values met or exceeded 0.7, consistent with the criteria outlined by Nunnally and Bernstein (1994).

The construct validity of the questionnaire was evaluated using factor analysis once the researchers had finished collecting quantitative data. After data collection, the researcher adopted Structural Equation Modeling (SEM) as the most appropriate method to examine the structural relationships between variables.

3.3 Population and Sample Size

Link and Oldendick's (2000) findings indicate that the target population refers to the entire set of samples within the research region sharing specific common characteristics. In the context of this study, the target population consists of employees working in the production department, sales department, and R&D department of three high-tech enterprises in Chengdu, and who have been working less than five years in a company. In addition, Israel (1992) indicated that for multiple regression, analysis of covariance, and analysis of log-linear, a good sample of 200-500 was necessary. In order to obtain more reliable statistical results, the researchers propose to draw more than 500 samples from three high-tech enterprises in Chengdu. Therefore, the researchers surveyed 520 respondents, and 500 questionnaires were available after data screening.

3.4 Sampling Technique

Nonprobability and probability sampling methods are used. Initially, a judgmental and stratified random sampling approach was utilized to select employees from the Research and Development (R&D), Sales, and Technology departments of three large high-tech enterprises, and who have been working less than five years in a company in Chengdu, as shown in Table 1.

Table 1: Sample Units and Sample Size

Company Name	Population Size	Proportional Sample Size
Huawei Technologies Co., Ltd.	3544	219
Sichuan Xunyou Network Technology Co., Ltd	631	39
Dongfang Electric Corporation Limited (Chengdu headquarters)	3917	242
Total	8092	500

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

The profile of the demographic targets 500 participants and is concluded in Table 2. Male respondents represent 41.8 %, and female respondents account for 58.2%. For the age group, the biggest segment in this research was 26-34 years old, representing 59.8% of respondents, 14.6% of 35-45 years old, 17% less than 25 years old, and 8.6 % over 46 years old. In terms of the educational background of respondents, the major group was Bachelor's degree at 78.2%, whereas Master's degrees accounted for 15%, below Bachelor's degree at 6.4% and Doctorate's degree at 0.4% respectively.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Age	25 years old or less	85	17%
	26 -34 years old	299	59.8%
	35-45 years old	73	14.6%
	Above 46 years old	43	8.6%
Education	Below Bachelor's degree	32	6.4%
	Bachelor's degree	391	78.2%
	Master's degree	75	15%
	Doctorate's degree	2	0.4%
Profession	Education/Training/Research	69	13.8%
	IT/ Internet/ E-commerce	161	32.2%
	Manufacturing	143	28.6%
	Financial trade	45	9%
	The professional services	45	9%
	others	37	7.4%
Gender	Male	209	41.8%
	Female	291	58.2%

Source: Constructed by author

4.2 Confirmatory Factor Analysis (CFA)

This study employed AMOS for conducting confirmatory factor analysis (CFA) to assess the convergent validity of the variables. In order to evaluate convergent validity, Fornell and Larcker (1981) established three pivotal measurement benchmarks: factor loadings surpassing 0.5, composite reliability (CR) values greater than 0.7, and average variance extraction (AVE) levels exceeding 0.4.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Job Engagement (JE)	Grobelna (2019)	9	0.895	0.636-0.767	0.491	0.896
Distributive Justice (DJ)	Carter et al. (2018)	5	0.837	0.686-0.748	0.508	0.837
Innovation Behavior (IB)	Zhang et al. (2016)	8	0.889	0.658-0.749	0.502	0.890
Training (TR)	Lapierre et al. (2016)	7	0.889	0.670-0.769	0.535	0.889
Job Satisfaction (JS)	Wang et al. (2018)	5	0.773	0.516-0.700	0.412	0.776
Organizational Commitment (OC)	Gao-Urhahn et al. (2016)	5	0.873	0.683-0.829	0.582	0.874
Job Performance (JP)	Yu et al. (2020)	4	0.811	0.675-0.751	0.517	0.810

All correlations extracted exceeded the corresponding values, as shown in Table 4. In addition, this study used GFI, AGFI, NFI, CFI, TLI, and RMSEA as indicators for model fit assessment in the CFA analysis.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	< 5.00 (Bentler & Bonett, 1980)	2.017
GFI	≥ 0.80 (Greenspoon & Saklofske, 1998)	0.861
AGFI	≥ 0.80 (Filippini et al., 1998)	0.843
CFI	≥ 0.90 (Arbuckle, 1995)	0.916
TLI	≥ 0.90 (Hair et al., 2006)	0.909
IFI	≥ 0.90 (Hair et al., 2006)	0.917
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.045
Model Summary		In harmony with empirical data

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, CFI = comparative fit index, TLI = Tucker Lewis index, IFI = Incremental Fit Index and RMSEA = root mean square error of approximation

Discriminant validity was assessed by comparing the square root of AVE with the correlation coefficients between latent variables. If the correlation coefficient between two latent variables is smaller than their corresponding AVE square root, it suggests good discriminant validity between them. The convergent and discriminant validity in this study exceeded the acceptable values. The distinction validity investigation results of less than five years of work experience group are shown in Table 5. The correlations

between any two latent variables are all below 0.8. Therefore, through these quantitative measures, discriminant validity is demonstrated (Liu et al., 2007).

Table 5: Discriminant Validity

	JE	DJ	IB	TR	JS	OC	JP
JE	0.701						
DJ	0.268	0.712					
IB	0.414	0.365	0.709				
TR	0.349	0.420	0.603	0.731			
JS	0.079	0.237	0.217	0.213	0.642		
OC	0.303	0.307	0.372	0.316	0.158	0.763	
JP	0.333	0.374	0.445	0.439	0.214	0.348	0.719

Note: The diagonally listed value is the AVE square roots of the variables

Source: Created by the author.

4.3 Structural Equation Model (SEM)

According to Hair et al. (2010), Structural Equation Modeling (SEM) validates the causal relationship among variables in a proposed model and encompasses measurement inaccuracy in the structure coefficient. The goodness of fit indices for the Structural Equation Model (SEM) is measured as demonstrated in Table 6. The model fit measurement should not be over 3 for the Chi-square/degrees-of-freedom (CMIN/DF) ratio, and GFI and CFI should be higher than 0.8, as Greenspoon and Saklofske (1998) recommended. The calculation in SEMs and adjusting the model by using SPSS AMOS version 26, the results of the fit index were presented as a good fit, which are CMIN/DF = 2.084, GFI = 0.857, AGFI = 0.839, IFI = 0.911, CFI = 0.910, TLI = 0.904 and RMSEA = 0.047, according to the acceptable values are mentioned in Table 6.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	< 5.00 (Bentler & Bonett, 1980)	2.084
GFI	≥ 0.80 (Greenspoon & Saklofske, 1998)	0.857
AGFI	≥ 0.80 (Filippini et al., 1998)	0.839
CFI	≥ 0.90 (Arbuckle, 1995)	0.910
TLI	≥ 0.90 (Hair et al., 2006)	0.904
IFI	≥ 0.90 (Hair et al., 2006)	0.911
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.047
Model Summary		In harmony with Empirical data

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, CFI = comparative fit index, TLI = Tucker Lewis index, IFI = Incremental Fit Index and RMSEA = root mean square error of approximation

4.4 Research Hypothesis Testing Result

The research model determines the significance of each variable through the standardized coefficient path and t-value. The outcomes in Table 7 indicate that 8 out of 9 hypotheses were supported.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: JE→IB	0.455	7.853*	Supported
H2: JE→JP	0.146	2.711*	Supported
H3: IB→JP	0.356	5.967*	Supported
H4: JS→JP	0.159	3.116*	Supported
H5: JS→OC	0.094	1.786	Not Supported
H6: OC→JP	0.213	4.259*	Supported
H7: DJ→JS	0.233	3.845*	Supported
H8: TR→JS	0.143	2.487*	Supported
H9: TR→OC	0.354	6.445*	Supported

Note: * p<0.05

Source: Created by the author

The result from Table 7 can be refined that:

H1 demonstrated that employee engagement is one of the key driving factors for innovative behavior, revealing a standardized coefficient value of 0.455 in the structural path. Kwon and Kim (2020) confirmed a close correlation between employee organizational identification and organizational support, indicating that dedicated employees are more likely to generate novel ideas to meet challenges, thereby exhibiting innovative behavior. With **H2**, the analysis results supported the hypothesis of a significant impact of work engagement on employee job performance, with a standardized coefficient value of 0.146. **H3** hypothesized that innovative behavior significantly affects job performance, and this received a standardized coefficient value of 0.356. Furthermore, employees displaying high work engagement suggest a strong acceptance of organizational management practices and task objectives, willingly striving to maximize personal value within the organization and thus fostering individual and organizational performance (Rich et al., 2010). The findings of this study support the previous literature's conclusion that work engagement has the greatest impact on job performance.

Moreover, **H4** verified a significant impact of job satisfaction on job performance. As for **H5**, with a coefficient value of 0.094, the results indicated no significant impact of job satisfaction on organizational commitment. Employee tenure, sense of belonging, and environmental pressure might interfere with job satisfaction. **H6** postulated that organizational commitment significantly affects job performance, obtaining a standardized coefficient of 0.213. Analysis of **H7** revealed that distributive fairness significantly influences job satisfaction, with a coefficient of 0.233. Employees often perceive organizational fairness by

comparing themselves with colleagues, and those perceiving fairness generally exhibit higher job satisfaction (Campbell & Finch, 2004). **H8** hypothesized a significant impact of training on job satisfaction, with a coefficient of 0.143. Lastly, the support of training on organizational commitment yielded a standardized coefficient value of 0.354, reinforcing the significant impact of **H9**. To substantiate this argument, Fletcher (2016) found that training, as an effective managerial and organizational aid, can significantly enhance employee job satisfaction and organizational commitment, reduce work anxiety, and motivate employees to improve job performance.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

This research paper focuses on This study primarily investigates the significant influencing factors of job performance among employees in high-tech enterprises in Chengdu city. Building upon prior research, this study constructs a conceptual framework to explore the substantial impacts of work engagement, distributive fairness, training, innovative behavior, job satisfaction, and organizational commitment on employee performance. Pre-designed survey questionnaires were distributed to targeted employee samples from three large high-tech enterprises in Chengdu city, encompassing roles in research and development, sales, and technology departments. The study aims to unveil relevant factors affecting job performance within specific geographic regions' high-tech enterprise management through data analysis. Confirmatory Factor Analysis (CFA) was employed to measure and validate the conceptual model's effectiveness and reliability. Accordingly, a Structural Equation Model (SEM) was used to analyze the influencing factors of employee job performance, and the research findings are presented as follows.

Firstly, work engagement has the most significant impact on employee job performance. This aligns with prior literature by Demerouti et al. (2010), indicating that employee engagement's physiological and psychological commitment can promote organizational goal attainment. High levels of engagement lead to prolonged focus on work and a proclivity to actively learn new skills and knowledge to enhance competitiveness, ultimately yielding better job performance.

Secondly, distributive justice ranks the second most influential factor affecting employee job performance. This supports the notion that organizational fairness significantly impacts job performance. In a fair environment, employees

can ensure smooth information communication conducive to exchanging innovative thoughts and ideas (Swalhi et al., 2017).

Thirdly, training is proven to impact employee job performance in high-tech enterprises substantially. The findings are consistent with Elnaga and Imran (2013) research, suggesting that training effectively enhances employee skills, serves as a vital tool to update employee thinking and abilities to tackle new tasks, and constitutes a crucial means for organizations to address evolving market demands and emerging technologies.

In conclusion, positive correlations exist between job performance and the abovementioned six variables. In summary, the study's objectives have been achieved, revealing that work engagement, distributive fairness, training, innovative behavior, job satisfaction, and organizational commitment are key influencing factors on employee job performance in Chengdu's high-tech enterprises.

5.2 Recommendation

The researchers discovered that enhancing employees' job performance in high-tech enterprises requires establishing a scientifically sound incentive system, ensuring that each employee feels valued and cared for by the organization, thus stimulating their potential and fostering high performance. Innovative behavior, organizational commitment, distributive justice, and training are strongly and positively associated with job performance, reflecting the employees' strong needs for socialization, belongingness, respect, and self-actualization. Therefore, high-tech enterprises should advocate a culture of freedom and integrity, enhancing employees' sense of responsibility and trust. Employee job satisfaction and dedication can be enhanced by improving working conditions, promoting harmonious work relationships, and strengthening organizational support. Subsequently, investing in training and designing multi-channel career development paths will encourage mutual growth between employees and the organization, cultivating intrinsic motivation and facilitating the transformation of job satisfaction into a spirit of dedication. Ultimately, these efforts will effectually elevate employees' innovative capabilities and performance.

5.3 Limitation and Further Study

The current study also has certain limitations. Firstly, it focused solely on high-tech enterprises and collected data from only three companies in Chengdu, resulting in a limited scope and sample size. Future research should aim to obtain

data from a broader range of sources to enhance the generalizability of the findings.

Secondly, a phased data collection approach could be explored in future studies, allowing for measurements of different variables at different time points, thus providing a more accurate determination of the relationships between variables. Collecting longitudinal data would enable the examination of the impact of various factors on employee attitudes, behaviors, and performance over different periods.

Thirdly, other factors such as LMX (Leader-Member Exchange) and job pressure may also influence job performance in real-world organizational settings. Given the diversity of high-tech enterprises in terms of industry and work environments, there may be variations across different companies. As a result, further validation of the conclusions presented in this study is necessary before applying them to specific industries.

References

- Arbuckle, J. L. (1995). *AMOS for Windows Analysis of Moment Structures. Version 3.5*. Small Waters Corp.
- Aryee, S., Chen, Z. X., & Budhwar, P. S. (2004). Exchange fairness and employee performance: An examination of the relationship between organizational politics and procedural justice. *Organizational behavior and human decision processes*, 94(1), 1-14. <https://doi.org/10.1016/j.obhdp.2004.03.002>
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588-606. <https://doi.org/10.1037/0033-2909.88.3.588>
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human performance*, 10(2), 99-109. https://doi.org/10.1207/s15327043hup1002_3
- Brown, S. P., & Peterson, R. A. (1993). Antecedents and consequences of salesperson job satisfaction: Meta-analysis and assessment of causal effects. *Journal of marketing research*, 30(1), 63-77. <https://doi.org/10.1177/002224379303000106>
- Campbell, L., & Finch, E. (2004). Customer Satisfaction and Organizational Justice. *Facilities*, 22, 178-189. <http://dx.doi.org/10.1108/02632770410547543>
- Carter, M. Z., Mossholder, K. W., & Harris, J. N. (2018). Congruence effects of contingent reward leadership intended and experienced on team effectiveness: The mediating role of distributive justice climate. *Journal of Occupational and Organizational Psychology*, 91(3), 465-485.
- Chien, M. S., Lawler, J. S., & Uen, J. F. (2010). Performance-based pay, procedural justice and job performance for R&D professionals: Evidence from the Taiwanese high-tech sector. *The International Journal of Human Resource Management*, 21(12), 2234-2248.
- Colquitt, J. A., LePine, J. A., Piccolo, R. F., Zapata, C. P., & Rich, B. L. (2012). Explaining the justice – performance relationship: Trust as exchange deepener or trust as uncertainty reducer?. *Journal of applied psychology*, 97(1), 1-15. <https://doi.org/10.1037/a0025208>
- Crow, M. S., Lee, C. B., & Joo, J. J. (2012). Organizational justice and organizational commitment among South Korean police officers: An investigation of job satisfaction as a mediator. *Policing: an international journal of police strategies & management*, 35(2), 402-423. <https://doi.org/10.1108/13639511211230156>
- Demerouti, E., Cropanzano, R., Bakker, A., & Leiter, M. (2010). From thought to action: Employee work engagement and job performance. *Work engagement: A handbook of essential theory and research*, 65(1), 147-163.
- Elnaga, A., & Imran, A. (2013). The effect of training on employee performance. *European journal of Business and Management*, 5(4), 137-147.
- Filippini, R., Forza, C., & Vinelli, A. (1998). Trade-off and compatibility between performance: Definitions and empirical evidence. *International Journal of Production Research*, 36(12), 3379-3406.
- Fletcher, L. (2016). Training perceptions, engagement, and performance: comparing work engagement and personal role engagement. *Human Resource Development International*, 19(1), 4-26.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Fu, W., & Deshpande, S. P. (2014). The impact of caring climate, job satisfaction, and organizational commitment on job performance of employees in a China's insurance company. *Journal of business ethics*, 124(2), 339-349. <https://doi.org/10.1007/s10551-013-1876-y>
- Gao-Urhahn, X., Biemann, T., & Jaros, S. J. (2016). How affective commitment to the organization changes over time: A longitudinal analysis of the reciprocal relationships between affective organizational commitment and income. *Journal of Organizational Behavior*, 37(4), 515-536. <https://doi.org/10.1002/job.2088>
- Gibbs, T., & Ashill, N. J. (2013). The effects of high-performance work practices on job outcomes: Evidence from frontline employees in Russia. *International Journal of Bank Marketing*, 31(4), 305-326. <https://doi.org/10.1108/ijbm-10-2012-0096>
- Greenspoon, P. J., & Saklofske, D. H. (1998). Confirmatory factor analysis of the multidimensional Students' Life Satisfaction Scale. *Personality and Individual Differences*, 25(5), 965-971. [https://doi.org/10.1016/S0191-8869\(98\)00115-9](https://doi.org/10.1016/S0191-8869(98)00115-9)
- Grobela, A. (2019). Effects of individual and job characteristics on hotel contact employees' work engagement and their performance outcomes: A case study from Poland. *International journal of contemporary hospitality management*, 31(1), 349-369. <https://doi.org/10.1108/ijchm-08-2017-0501>
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate Data Analysis* (6th ed.). Pearson Prentice Hall.

- Hill, C. W. L., & Rothaermel, F. T. (2003). The performance of incumbent firms in the face of radical technological innovation. *Academy of Management Review*, 28(2), 257-274.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives. *Structural Equation Modeling*, 6, 1-55. <http://dx.doi.org/10.1080/10705519909540118>
- Israel, G. D. (1992). *Determining sample size*. University of Florida Cooperative Extension Service.
- Jafri, M. H. (2010). Organizational commitment and employee's innovative behavior: A study in retail sector. *Journal of Management Research*, 10(1), 62-68.
- Jex, S. M., & Britt, T. W. (2008). *Organizational Psychology: A Scientist-Practitioner Approach* (1st ed.). John Wiley & Sons.
- Johnston, M. W., Parasuraman, A., Futrell, C. M., & Black, W. C. (1990). A longitudinal assessment of the impact of selected organizational influences on salespeople's organizational commitment during early employment. *Journal of marketing research*, 27(3), 333-344. <https://doi.org/10.1177/002224379002700307>
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of management journal*, 33(4), 692-724. <https://doi.org/10.5465/256287>
- Kim, M. S., & Koo, D. W. (2017). Linking LMX, engagement, innovative behavior, and job performance in hotel employees. *International Journal of Contemporary Hospitality Management*, 29(12), 3044-3062. <https://doi.org/10.1108/ijchm-06-2016-0319>
- Kwon, K., & Kim, T. (2020). An integrative literature review of employee engagement and innovative behavior: Revisiting the JD-R model. *Human Resource Management Review*, 30(2), 100704. <https://doi.org/10.1016/j.hrmr.2019.100704>
- Lapierre, L. M., Van Steenberghe, E. F., Peeters, M. C., & Kluwer, E. S. (2016). Juggling work and family responsibilities when involuntarily working more from home: A multiwave study of financial sales professionals. *Journal of Organizational Behavior*, 37(6), 804-822. <https://doi.org/10.1002/job.2075>
- Lee, Y. K., Nam, J. H., Park, D. H., & Ah Lee, K. (2006). What factors influence customer-oriented prosocial behavior of customer-contact employees?. *Journal of services marketing*, 20(4), 251-264. <https://doi.org/10.1108/08876040610674599>
- Li, Y., Zhao, Y., & Liu, Y. (2006). The relationship between HRM, technology innovation and performance in China. *International journal of manpower*, 27(7), 679-697. <https://doi.org/10.1108/01437720610708284>
- Link, M. W., & Oldendick, R. W. (2000). The role of survey research in the benchmarking process. *Journal of Public Budgeting, Accounting & Financial Management*, 12(1), 138-164. <https://doi.org/10.1108/jpbafm-12-01-2000-b007>
- Liu, Y., Combs, J. G., Ketchen, D. J., & Ireland, R. D. (2007). The value of human resource management for organizational performance. *Business horizons*, 50(6), 503-511. <https://doi.org/10.1016/j.bushor.2007.07.002>
- Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and organizational Psychology*, 1(1), 3-30. <https://doi.org/10.1111/j.1754-9434.2007.0002.x>
- Meyer, J. P., Paunonen, S. V., Gellatly, I. R., Goffin, R. D., & Jackson, D. N. (1989). Organizational commitment and job performance: It is the nature of the commitment that counts. *Journal of applied Psychology*, 74(1), 152-156. <https://doi.org/10.1037/0021-9010.74.1.152>
- Mowday, R. T., Steers, R. W., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, 14(2), 224-247. [https://doi.org/10.1016/0001-8791\(79\)90072-1](https://doi.org/10.1016/0001-8791(79)90072-1)
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Polonsky, M. J., & Waller, D. S. (2015). *Designing and Managing a Research Project: A Business Student's Guide* (1st ed.). SAGE Publications.
- Rayton, B. A. (2006). Examining the interconnection of job satisfaction and organizational commitment: An application of the bivariate probit model. *The International Journal of Human Resource Management*, 17(1), 139-154. <https://doi.org/10.1080/09585190500366649>
- Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of management journal*, 53(3), 617-635. <https://doi.org/10.5465/amj.2010.51468988>
- Salanova, M., Agut, S., & Peiro, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: the mediation of service climate. *Journal of applied Psychology*, 90(6), 1217-1227. <https://doi.org/10.1037/0021-9010.90.6.1217>
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi - sample study. *Occupational and Organizational Psychology and Behavior*, 25(3), 293-315. <https://doi.org/10.1002/job.248>
- Swalhi, A., Zgoulli, S., & Hofaidhllaoui, M. (2017). The influence of organizational justice on job performance: The mediating effect of affective commitment. *Journal of Management Development*, 36(4), 542-559. <https://doi.org/10.1108/jmd-11-2015-0162>
- Thurlings, M., Arnoud, E., & Vermeulen, M. (2015). Toward a model of explaining teachers' innovative behavior: a literature review. *Review of Educational Research*, 85(3), 430-471. <https://doi.org/10.3102/0034654314557949>
- Wang, C. (2020). *Research on innovation efficiency of Chinese high-tech enterprise* [Unpublished Doctoral dissertation]. Graduate School of Chinese Academy of Social Sciences.
- Wang, Y., Tsai, C. H., Tsai, F. S., Huang, W., & Cruz, S. M. (2018). Antecedent and consequences of psychological capital of entrepreneur. *Sustainability*, 10, 3717. <https://doi.org/10.3390/su10103717>
- West, M. A., & Farr, J. L. (1989). Innovation at work: psychological perspective. *Social Behavior*, 4, 15-30. <https://doi.org/10.1111/j.2044-8260.1976.tb00029.x>
- Witt, L. A., & Nye, L. G. (1992). Gender and the relationship between perceived fairness of pay or promotion and job satisfaction. *Journal of Applied psychology*, 77(6), 910-917. <https://doi.org/10.1037/0021-9010.77.6.910>

- Yang, J. T. (2010). Antecedents and consequences of job satisfaction in the hotel industry. *International Journal of Hospitality Management*, 29(4), 609-619.
<https://doi.org/10.1016/j.ijhm.2009.11.002>
- Yu, J., Arizamontes, A., & Giorgi, G. (2020). Sustainable relationship development between hotel company and its employees: linking job embeddedness, job satisfaction, self-efficacy, job performance, work engagement, and turnover. *Sustainability*, 12(17), 7168.
<https://doi.org/10.3390/su12177168>
- Zhang, N., Wang, B., & Liu, Z. (2016). Carbon emissions dynamics, efficiency gains, and technological innovation in China's industrial sectors. *Energy* 99, 10-19.
- Zhang, X. M., & Bartol, K. M. (2010). The influence of creative process engagement on employee creative performance and overall job performance: A curvilinear assessment. *Journal of Applied Psychology*, 95(5), 862-873.
<https://doi.org/10.1037/a0020173>