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2022 년 2 월

박사학위 논문

The Effect of High-Performance Work
Systems on Organizational Commitment
and Organizational Citizenship Behavior:
Focusing on the Mediation of
Organizational Justice

조선대학교 대학원

경영학과

곽 사 사

The Effect of High-Performance Work Systems on Organizational Commitment and Organizational Citizenship Behavior: Focusing on the Mediation of Organizational Justice

고성과작업시스템이 조직몰입과 조직시민행동에
미치는 영향: 조직공정성의 매개효과를 중심으로

2022년 2월 25일

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ABSTRACT

고성과작업시스템이 조직몰입과 조직시민행동에 미치는 영향:
조직공정성의 매개효과를 중심으로

박사사

지도교수: 장용선

경영학과

조선대학교

4 차 산업혁명의 도래와 인재 경쟁은 현대 기업 경쟁의 핵심이 되었다. 현대 사회의 치열한 경쟁과 빠르게 변화하는 근무 환경으로 기업은 인재들의 이직과 낮은 생산성을 경험하고 있다. 이러한 상황에서 고성과작업시스템은 학계에서 광범위한 관심을 받아왔다. 과학적이고 합리적인 고성과작업시스템을 구축하고 직원의 조직 몰입과 조직시민행동을 강화하며 기업의 경쟁력을 촉진하는 것은 전략적 인적자원관리 연구의 중요한 주제가 되었다.

본 연구는 자원보존이론, 사회적 교환이론 및 심리적 계약이론을 기반으로 중국 기업의 고성과작업시스템이 직원들의 태도와 행동에 미치는 교차 수준의 영향과 조직

공정성의 매개효과를 탐구했다. 본 연구의 설문지는 온라인/오프라인으로 배포되었으며, 최종적으로 101 개 중국 기업의 1,358 개의 유효한 설문지를 획득하였다. 본 연구의 결과는 다음과 같다.

첫째, 조직 수준의 고성과작업시스템은 개인 수준의 조직몰입과 조직시민 행동에 긍정적인 영향을 미쳤다. 둘째, 고성과작업시스템은 분배공정성에 긍정적인 영향을 미치지만 절차공정성에 영향을 미치지 않는 것이다. 본 연구의 설문대상자들 중에는 대학 이하 교육 수준을 가진 직원의 비중이 크고 대부분은 절차적 공정성을 이해하는 데 편차가 있었다. 중국 기업 경영은 인간관계 경영을 중시하며, 고성과작업시스템을 시행하는 과정에서 '관시'(관계)는 직원들의 절차적 공정성에 영향을 미치기 때문에 가설이 입증되지 않은 것으로 보인다.

셋째, 조직공정성은 조직입과 조직시민 행동에 긍정적인 예측 효과가 있었다. 넷째, 분배공정성은 고성과작업시스템과 조직몰입, 조직시민행동 간의 관계에서 매개효과가 있었고 절차공정성의 매개효과는 검증되지 않았다. 중국문화는 집단주의와 권위를 강조하는 사회이다. 중국기업은 관리직에 있는 직원들의 "복종"에 주의를 기울이고 참여를 강조하지 않는 경향이 있다. 이러한 사회문화적 상황은 중국직원의 이념적 인식에 큰 영향을 미쳤을 것이다.

본 논문은 중국기업의 고성과작업시스템, 조직공정성, 조직몰입 및 조직시민행동 간의 관계를 분석하여 이에 대해 학술적, 실무적 시사점을 제공할 것이다. 이론적

시사점에서 본 연구는 중국기업을 배경으로 HPWS 연구의 관점을 크게 넓힐 수 있고 조직몰입과 조직시민행동에 영향을 미치는 조직 수준에 대한 연구를 풍부하게 할 수 있을 것이다. 실무적 관점에서 본 연구는 경여자들이 조직공정성의 중요성을 이해하고 고성과작업시스템을 적용하는데 의미 있는 시사점을 제공해줄 것이다. 종합적으로 본 연구는 고성과작업시스템의 교차수준 연구로서 중국기업에 의미 있는 시사점을 제공해줄 수 있을 것이다.

키워드: 고성과작업시스템, 조직공정성, 조직몰입, 조직시민행동

I . INTRODUCTION

A. Research Background

As the world's second-largest economy, the market economy in China has been integrated into the global competition, and Chinese companies are exerting greater influence on the global economic market. From the end of 2019 to 2021, both the Chinese and global economies have been heavily affected by the COVID-19 pandemic. The offline businesses of companies and capital markets have been severely hit, thereby leading to a more frequent flow of talents. Thus, human resource management is facing severe challenges during this COVID-19 war, which is fought without gunpowder. Chinese companies urgently need to resume production and improve the quality and level of operations. How Chinese companies improve management and retain talents and improve employee behavior efficiency need to be studied. Therefore, this is an important topic under the current situation.

The 21st century is an era during which the knowledge economy is booming, and people are the most treasured resource of a company (Drucker, 1999). During corporate strategic management, the introduction of talents, the establishment of professional management echelon, and the scientific and professional human resource management of companies are the key elements and important resources of current company development. The fourth industrial revolution has tremendously accelerated environmental changes, promoted economic development, and enhanced market competition. Under these impetuses, companies have profoundly realized that human capital competition has become the core of an organization's survival and competitive advantages. Due to the competitive advantage of companies,

high-performance work systems (HPWS) have attracted more attention (Guthrie, 2001; Huselid, 1995; Sun, Aryee, & Law, 2007).

HPWS consist of human resource practices and organizational strategy that can bring sustainable competitive advantages to companies (Delery, 1998). To promote the competitive advantage of a company, strategic human resources management (SHRM) proposes to integrate various human resource management practices (HRMP), likely education, worker participation, and performance allowance, holistically and systematically to build a human resource management system that can cooperate and promote each other and is difficult to imitate (Wright, Dunford, & Snell, 2001). Hence, exploring HPWS have theoretical and practical significance for improving the competitiveness of companies. Moreover, using different research backgrounds, more and more scholars are exploring the impact of HPWS on indicators that can measure corporate performance.

Organizational justice is the employee's subjective feelings of the justice of the environment in an organization. The perceptions potentially prompt employees to produce attitudes and behavioral reflections at work (James, 2010; Scholl, Cooper, & Mckenna, 1987). Organizational justice has always been a hot topic for researchers. Previous studies have argued that organizational justice affects multiple organizational effect variables. Enhancing the feeling of fairness can improve the personal–organizational connections and promote employees' work deeds, likely work satisfaction, performance, organizational commitment, and organizational citizenship behavior (OCB). For example, employees' perception of distributional justice can forecast their work performance (Adams, 1965).

Organizational commitment is employees' emotional identification with their organization at the psychological level. OCB is behaviors outside of roles which are not described in the employee's work description. They are the prerequisite for achieving

performance, improving employees' attitudes and actions, and promoting the smooth growth of an organization. With the deepening of global economic integration, the economic situation of the world is changing rapidly. Companies have accelerated their working environment in response to changes in the external environment. This has put tremendous pressure on employees, resulting in increased employee turnover and reduced employees' sense of responsibility, work enthusiasm, and work efficiency. Moreover, the implementation of the HPWS can adequately improve the work behavior of employees.

The concept of HPWS has been developed in a typical individualistic country like the United States, but at least 70% of the world's population is in a collectivist culture, such as China. The two cultural backgrounds are very different. Thus, previous research results obtained under the cultural background of the United States may not apply to China. In addition, most of the existing research on HPWS mainly uses the same level of analysis, that is, the analysis is either at the employee or company level (Snape & Redman, 2010). Although many scholars have launched more in-depth theoretical discussions on cross-level HPWS (Arthur & Boyles, 2007; Wright & Nishii, 2007), relevant empirical studies are still lacking (Wright & Boswell, 2002; Lepak, Liao, Chung, & Harden, 2006). Overall, studies on HPWS targeting China are not enough, especially the relationship among HPWS and organizational justice, organizational commitment, and OCB.

In summary, based on above considerations, this study selects Chinese companies as the study object to discuss and analyze the influence mechanism of the connection among HPWS, employee attitudes, and actions and introduce organizational justice as an intermediate variable. This mediating variable is used to study the mechanism of action between HPWS and organizational commitment and OCB.

B. Research Significance

At present, there are relatively few studies on the cross-level effects of HPWS on individual-level employees' behaviors. Therefore, this study uses Chinese companies as the research object and focuses on the impact of HPWS on employees' organizational commitment and OCB at the organizational-level and individual-level methods, respectively, and introduces organizational justice as an intermediate variable. This research has both theoretical and practical significance.

1. Theoretical Significance

a. This study uses Chinese companies as the research object to study HPWS, which greatly enriches the theoretical system of HPWS research.

b. This research introduces organizational justice as an intermediate variable and conducts cross-level research on organizational-level HPWS and individual-level organizational commitment and OCB. It makes up for the lack of research on HPWS, organizational commitment, and OCB, thus expanding new ideas for theoretical research.

c. This research expands the application of the resource conservation theory, psychological contract theory, and social exchange theory in many human resource management (HRM) kinds of literature, and tests the effectiveness of these three theories in the Chinese context.

2. Practical Significance

The practical significance of this article lies in guiding Chinese companies on how to further strengthen the strategic functions of HRM and carry out HRM innovation under multi-globalization.

a. This study introduces the research on organizational justice into the Chinese context. It examines the connection among organizational commitment, organizational justice, and OCB, as well as its intermediate role in the mechanism through which HPWS affect employees' feelings and behaviors. Therefore, this can help Chinese companies to comprehensively understand the importance of organizational justice.

b. This research helps to improve the application of HPWS in Chinese companies. It explores the effect of HPWS on employee feelings and behaviors, which may provide important inspiration for the transformation and upgrading of Chinese companies.

c. This research further enriches the previous research on the influencing factors of employee organizational commitment and OCB, which help Chinese companies improve employee attitude and behavior management at the company level.

d. This study also has vital reference value and implications for companies to improve management and promote development.

C. Structure of Dissertation and Methods

1. Structure of Dissertation

This study mainly discusses the cross-level impact of HPWS on employees' organizational commitments, OCB, and the organizational justice's intermediate role. After considering research issues comprehensively, the thesis is mainly composed of five parts:

First, the introduction. This part describes the background of this research, purpose, and significance; the primary contents of the thesis, and points out the essential research methods and innovations.

Second, the literature review. This chapter mainly organizes and analyzes the concept of

the variables. It summarizes four core concepts—HPWS, organizational justice, organizational commitment, and OCB—to determine some limitations of existing literature about these core concepts, thereby establishing the basis of this article.

Third, the research assumption or hypothesis. According to the social exchange theory, resource conservation theory, and psychological contract theory, the chapter discusses and analyses the relationship among HPWS, organizational justice and commitment, and OCB to propose some hypotheses and build research models.

Fourth, research design and empirical analysis. The research design includes sample data collection, variable measurement, and data statistics. This part of the empirical analysis includes testing the reliability and validity of sample data, conducting descriptives and correlation analyses of the individual- and organization-level variables, using regression analysis to examine the individual hypothesis, and using HLM to examine the cross-level hypothesis.

Fifth, research conclusions and enlightenment. According to the results by using empirical analysis, it concludes and puts forward relevant suggestions to improve employee attitudes and behaviors through HRM. Finally, this chapter summarizes the thesis and shows some research limitations and possible research directions in the future.

2. Methods

This thesis adopts a literature summary, questionnaire survey, and statistical analysis; an overview is as follows:

a. Literature Research

Based on the relevant literature, we sort out the HPWS, organizational justice, organizational commitment, OCB, and the relationship among these variables. We construct the model of the influence of HPWS on employee feelings, behaviors, and assumptions are

made. It provides theoretical support for the follow-up research of this article.

b. Questionnaire Survey

Using Chinese companies as the research object, we randomly sample 101 companies, the company level HPWS will survey each HRM personnel, and more than 10 people in each company are sampled to analyze the individual-level variables.

c. Statistical Analysis

This thesis employs hierarchical linear modeling (HLM) and SPSS to verify basic data analysis and assumptions. HLM is a set of statistics used for cross-level analysis. SPSS is used to verify reliability and validity and to conduct basic data analysis.

D. Innovation

1. Deepen the research of HPWS. For a long time, the research objects of HPWS are more focused on European and American companies. Research on Chinese companies is not yet enough. The connection between HPWS and organizational justice, and organizational commitment, and OCB is still unclear. This research employs Chinese companies as the object, which further enriches the research scope of HPWS in Chinese contexts and provides a new direction for future comparative research on eastern and western companies' SHRM.

2. For the first time, this thesis systematically integrates HPWS, organizational justice, organizational commitment, and OCB. Existing studies about intermediate variables of the connection among HPWS, organizational commitment, and OCB are not sufficient. This thesis enriches the influence mechanism of HPWS on organizational commitment and OCB and provides theoretical support for management practice for Chinese companies.

3. Innovation in a research perspective. There are only a few studies that consider both the organizational and individual levels in the same research framework. Starting from the

organizational and individual levels, this thesis systematically explores the association between HPWS and employee attitudes/behaviors to enrich research on HPWS, organizational commitment, and OCB.

II. THEORETICAL BACKGROUND

A. High-Performance Work Systems (HPWS)

Since the 1980s, HPWS have been extensively considered in previous HRM literature. However, how HPWS operate in the Chinese context is still not clear. The HRM research can be divided into micro and macro perspectives. Early studies mainly analyzed individual HRMP from a micro perspective. Beginning in the second half of the 1980s, previous studies on HRM have shifted from a micro approach to “SHRM”, which emphasizes macro variables or the connection between HRM and strategy.

Delery & Doty (1996) illustrated SHRM from three perspectives. Firstly, the universalistic perspective explains the HRMP that can create high performance in any situation and proposes employee selection, wage system, performance evaluation, education and training, participation, employment safety, and career development. Second, the contingency perspective of HRM relies on the degree of conformity with corporate strategy, that is, adopting HRMP suitable for corporate strategy can improve organizational performance. Third, from the configurational perspective, HRM expects that the nonlinear relationship and the complex interaction between the practices will increase the consistency with the strategy to increase the company's performance.

This research selects the general viewpoints from the above three viewpoints to study the system of Chinese companies' HRM. The general view is that those practices of HRM can enhance performance under any circumstance (Huselid, 1995; Osterman, 1994; Pfeffer, 1994). The important goal of this research is to empirically analyze whether the HPWS applied in the United States or Europe can be applied to Chinese companies.

HPWS are defined as “an organizational system that adequately allocates the organization's resources to effectively meet market and customer needs and achieve high-performance organizations” (Nadler, Gerstein, & Shaw, 1992). Some scholars believe that HPWS are the best HRMP that meet the strategic objectives of a company and improve the performance of a business (Datta, Guthrie, & Wright, 2005; Huselid, Jackson, & Schuler, 1997; Pfeffer, 1994).

HPWS emphasize rigorous recruitment and selection procedures, results-related payroll systems, extensive employee engagement training, result evaluation systems, employment stability, etc., as well as the close interrelationship among human resources practices (Delery & Doty, 1996). Furthermore, HPWS enable companies to treat their employees well and continuously improve their skills, commitment, and productivity, making them a continuous competitive advantage for their companies through a series of human resources practices (Edwards, Platt, & Wright, 2001). The commitment-style HRM systems include decentralization, participation, general training, skills, high wage, high-level employee benefits, indirect supervision, team bonuses and incentive compensation, and other practical content (Arthur, 1994).

Some of the 16 best practices of HRM that are commonly used by companies are incentive compensation, employment safety, participation and authorization, internal promotion, as well as skills training and development (Pfeffer, 1994). Later, the following seven common HRMP were proposed: internal promotion opportunities, training systems, performance appraisal, safety at work, employee participation, work analysis, and profit-sharing (Delery & Doty, 1996).

Based on the Chinese national conditions, some scholars have proposed four-dimensional, five-dimensional, and eight-dimensional HPWS (Li & Wei, 2011; Su, 2010; Wang, 2011). In

conclusion, previous research on HPWS has defined the characteristics, process, effects, and structural dimensions of HPWS. Implementing HPWS is extremely important for Chinese companies to cultivate and retain employees who are loyal to the organization to gain a competitive advantage.

As China's largest chain hot pot catering company, the Haidilao hot pot is known for its good service due to its core competitiveness as a result of the continuous innovation of ordinary employees. Haidilao has established a set of HPWS that are suitable for its development. Its HPWS include (1) recruitment: it employs different recruitment methods for employees at different levels; (2) promotion: it provides dual-channel development opportunity for front-line and functional departments; (3) salary incentives: it continuously improves the employee salary and treatment guarantee standard using the basic salary and piece-rate salary model, upper-middle short-term income, mid-term bonuses and dividends, and long-term equity incentives; (4) performance appraisal system: its performance appraisal system is based on customer satisfaction, employee enthusiasm, and manager training; (5) employee training: it employs unified training in Haidilao in house university, store internship, assignment at the end of internship, and mentorship, (6) authorization and trust: ordinary employees can exempt customers from paying for food under certain circumstance, middle-level employees have the right to open stores, and senior employees have the right to make decisions for Haidilao; (7) welfare system: the company implements some projects to fully motivate employees, such as parent-child companionship, child education assistance, elder care subsidies, talent programs, and assisting senior managers to study MBA and EMBA. Thus, Haidilao's employees can be more loyal to the company, and their turnover rate is usually lower than 10% (Duan & Min, 2021; Meng & Du, 2019; Xu, 2021).

In addition, the organizational structure of China's Xiaomi company is flat and divided

into seven core founders, department leaders, and employees. The HRMP implemented by Xiaomi companies include organizational culture (product concepts born for enthusiastic, innovative, and fast internet culture), recruitment and selection (recruiting talents who are smart, technically first-class, combat effectiveness, and have innovative ideas), employee training, and development (mentor system and regular training), and performance management (no key performance indicator and getting promoted mainly based on the management model driven by user feedback) (Zheng & Song, 2015).

Similarly, in 2001, China's Huawei Company introduced HPWS in Western and formed its high-performance work system after long-term exploration. Its work system includes recruitment and selection (focusing on employee values and capabilities and thinking that the best talents are the right ones), training and development (establishing a corporate competency training center), result-oriented performance appraisal, performance-based variable compensation system, strict management of process constraints, internal promotion, and wolf-like corporate culture (Di, 2013).

B. Organizational Justice

Organizational justice originated from Adam's study of distributional justice in 1965. In an ideal state, organizational justice can increase employee engagement and reduce turnover (Greenberg, 1990). Organizational justice can be defined as employees' fair feelings about the organizational environment (James, 2010). Moreover, organizational justice can reflect employees' subjective feelings about the degree of fairness in the workplace, which is psychologically measured by fair perception (Cropanzano, Byrne, Bobocel, & Rupp, 2001), or employees' subjective perception of the resources and incentives given by the organization (Moorman, Blakeley, & Niehoff, 1998). A two-factor model of organizational justice,

comprising of distributional and procedural justices, has been proposed (Kickul, 2001; Sweeney & McFarlin, 1993).

1. Distributional Justice

Distributional justice pays attention to employees' perception and behavioral reflection of an organization's distribution results. Adams (1965) proposed the concept of distributional justice. When they feel that the distribution of benefits is improper or unethical or their income is not as good as that of their peers, employees will feel that the distribution is unfair (Folger & Cropanzano, 1998). Distributional justice is the individual's feeling on the rewards given by an organization (Fetterman & Wandersman, 2007).

2. Procedural Justice

In the mid-1970s, procedural justice was proposed by American sociologists Thibaut & Walker, who argued that justice is important not only for distribution but also for the process associated with the distribution (Thibaut & Walker, 1975). From then on, two basic structural dimensions of organizational justice—distributional justice and procedural justice—were formed. Procedural justice is a kind of fairness process of distribution (Folger & Greenberg, 1985). It refers to an organization's understanding of the methods or procedures for determining employee compensation (Fetterman & Wandersman, 2007).

Fairness perception does not only exist in distribution results and procedures but also the interaction between employees and members of different levels of organization (Bies & Moag, 1986). Greenberg (1993) divided the interaction fairness into information justice and interpersonal justice. In the Chinese cultural environment, organizational justice is composed of four kinds of dimensions—distributional justice, procedural justice, leadership justice, and information justice (Liu, Long, & Li, 2003). China's systematic study of organizational justice

has not developed like that of the West, and most of the measuring scales used in the study are more mature scales than that of the West. In this research, an organizational justice's two-factor model is mainly used.

C. Organizational Commitment

Organizational commitment is a vital concept in contemporary organizational behavior. Becker (1960) first came up with the organizational commitment concept that forces employees to remain in a company as they have invested more in the company. Based on the side-bet theory, employees unilaterally believe that the longer they work in a business, the more they pay to the business and the harder it is to leave the business. Expectations of the returns that inputs can generate in a company are important reasons for employees' commitment to the company.

Organizational commitment means an individual's positive attitude toward an organization and is the degree to which an employee is emotionally dependent on an organization (Mowday, Steers, & Porter, 1979). Moreover, it is a “psychological contract” between an organization and its members. Previous research has divided organizational commitment into three stages—obedience, certification, and internalization (O'Reilly & Chatman, 1986).

Organizational commitment is divided into three categories—*affective commitment*, *continuous commitment*, and *normative commitment*. *Affective commitment* is a kind of willingness to stay in an organization with emotional attachment. *Continuous commitment* means remaining in the organization after losing interest as a result of leaving an organization. The *normative commitment* represents a kind of feeling about the promise to an organization (Allen & Meyer, 1990). The five-factor model of emotional promise, normative promise, ideal

promise, economic promise, and opportunity promise explains organizational commitment, and it has strong Chinese localization characteristics (Ling, Zhang, & Fang, 2001).

The pre-factor variables of organizational commitment constitute three parts—personal, work, and organization. Personal factors mainly refer to demographic variables. Age plays a positive role in organizational commitment (Meyer & Allen, 1991; Steers, 1977). The level of education is negatively affected by organizational commitment (Mowday, Steers, & Porter, 1979). Work factors refer to the difficulty of the work, skill requirements, working environment, and so on. The characteristics of the job itself and job satisfaction largely influence emotional commitment and continuous commitment (Meyer, Allen, & Smith, 1993). Organizational factors refer to organizational justice, organizational trust, and corporate philosophy. The researchers found that when the employee’s level of awareness of the organization’s support is higher, their emotional commitment to the organization is also higher (Liu & Wang, 2004).

The result variable in organizational commitment focuses on job performance, OCB, and turnover intention. Previous studies have suggested that when employees are of higher organizational commitment, their job performance is higher (Dubin, Champoux, & Porter, 1975). OCB is significantly affected by organizational emotional and continuous commitment (Wang & Zhang, 2008). To a certain extent, organizational commitment can predict employee turnover-related behavior (Tett & Meyer, 1993).

D. Organizational Citizenship Behavior (OCB)

With the variation in the flat construction of corporate organizations, OCB has become an important part of organizational behavior research. OCB is a type of individual behavior that employees voluntarily and spontaneously engage in, which can enhance the interests of the

organization and is not easily assessed by the reward from an organization and punishment scheme (Organ, 1988; Robbins, 2001). OCB includes behavior within and outside the role of employees (Graham, 1991).

OCB is a conscious behavior of employees that goes beyond their duties and is not part of the formal reward and punishment system (Konovsky & Pugh, 1994). In summary, the characteristics of OCB mainly include four aspects. First, it is an off-role behavior, which is not within the scope of an organization's rigid requirements for employees' responsibilities or job descriptions. Second, it is voluntarily engaged in by employees. Third, it promotes the performance of an organization. Fourth, it is not easy to be motivated by the formal reward and punishment system in an organization.

Although employees' OCB is not directly rewarded, the organization will give indirect rewards, such as opportunities for promotion and further education (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). And, OCB has been redefined, referring to behaviors that do not only promote task performance but also maintain and promote the organizational, social, and psychological environment (Organ, 1997).

The two-, four-, five-, and seven-dimensional structures of organizing citizenship behavior have a great influence. The two-dimensional structure is divided into altruism and general obedience (Smith, Organ, & Near, 1983). The four-dimensional structure comprises interpersonal help, individual initiative, personal diligence, and loyalty (Graham, 1991). Some scholars have conducted OCB research with a four-dimensional structure model (Moorman & Blakely, 1995). The five-dimension structure model comprises altruistic behavior, kindness, fidelity, sportsmanship, and civic morality (Organ, 1988), which are highly recognized by researchers. The seven dimensions of OCB comprise prosocial behavior, the athlete's mentality, the feelings of allegiance to an organization, obedience to the organizational arrangement,

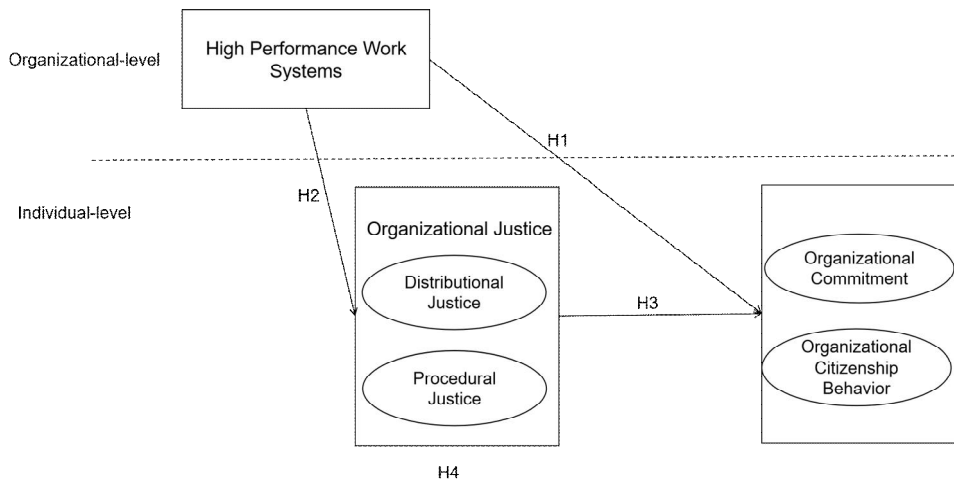
personal initiative, civic morality, and self-development (Podsakoff et al., 2000). The OCB's five dimensions obtained from Taiwanese companies in China are identity organization, assistance to colleagues, non-profit giving, protection of company resources, and professionalism (Farh, Earley, & Lin, 1997). And, a previous study investigated Chinese mainland businesses and obtained 10 dimensions of OCB (Farh, Zhong, & Organ, 2004).

III. RESEARCH MODEL AND HYPOTHESIS

A. Research Model

Organizational justice plays a vital mediation role in the positive effect of HPWS on employees' feelings and behaviors. The research constructs a cross-level theoretical model to explain employee organizational commitment and OCB. Based on the theoretical model, HPWS is the independent variable at the company level; but organizational commitment at an employee's level and OCB are the dependent variables, and organizational justice is an intermediate variable at an employee's level. The research attempts to explore how HPWS can improve employees' attitudes and behaviors and improve the efficiency of the internal labor market. The overall theoretical model is displayed in Figure 1.

<Figure 1> Research Model



B. Research Hypothesis

The research employs the social exchange theory, resource conservation theory, and psychological contract theory to investigate the cross-level effect mechanism of HPWS on employees' work attitudes and behaviors.

1. The Relationship between HPWS and Organizational Commitment and OCB

a. The Relationship between HPWS and Organizational Commitment

Many previous studies on the connection between HPWS and organizational commitment have been conducted. HPWS can effectively improve organizational commitment (Vandenberg, Richardson, & Eastman, 1999). The social exchange theory explains the connection between HPWS and organizational commitment well. According to the theory of social exchange, the individual's exchange relationship begins with one party's investment in the other in the form of reward activities, gifts, or favors. In the organizational context, employees respond with more positive attitudes and behaviors when they sense that a company is investing in them (Blau, 1964). Specifically, HPWS that reflect the organization's long-term investment in employees, such as caring about their welfare and development, make employees sense supported by a company, which greatly improves the organizational commitment. According to the theory of the social exchange, a previous study has tested the impact of HPWS on employees' organizational commitment (Gould-Williams & Davies, 2005).

In manufacturing companies, HPWS can give employees more opportunities to participate in the organization, thereby increasing their organizational commitment (Appelbaum, Bailey, Berg, & Kalleberg, 2000). The multi-level analysis method proves that

HPWS substantially enhance employees' affective commitment in research about Japanese companies (Takeuchi, Chen, & Lepak, 2009).

According to a cross-level model and the theory of social exchange, using the credit unions in the U.S. as the research object, a previous study argues that human resource practices play a significant moderating impact of organizational support on the organizational commitment. This research used the cross-level methods of HLM, that is, compared with practices about controlled HRM, high-commitment HRMP can greatly strengthen the connection between organizational support and organizational commitment (Whitener, 2001).

Using a large-size food service company with operations in U.S. and Canada as a sample, another previous study has also supported the connection between HRM practices and organizational commitment (Wright, Gardner, & Moynihan, 2003). Moreover, the level of organizational commitment plays potentially a mediator between HRM and corporate performance that has been verified by a previous study on autonomous business units in a large foodservice distributing company (Moynihan, Gardner, & Park, 2001). According to the study on the company in the foodservice industry, a final model suggests that empowerment that enhances HRM practices can promote organizational commitment (Gardner, Moynihan, & Park, 2001).

Korean scholars have suggested that high participation in HRM enhances organizational commitment by conducting an empirical survey of 27 small- and medium-sized companies and using regression analysis from the company level (Chang, Kim, Lee, & Cho, 2014). Similarly, Chinese scholars conducted field surveys on companies in Shandong Province and suggested that SHRM largely affects the organizational commitment of employees (Li & Sun, 2010).

Another previous study has found that employees perceived HPWS can significantly

promote organizational commitment by using manufacturing companies in Dalian and Xi'an of China as the research sample (Qiao, Khilji, & Wang, 2009). Moreover, using multi-level analysis methods, previous research has shown that HPWS at the company level have a meaningful effect on the employees' emotional commitment at the employee level in hair salons in Taiwan (Chang & Chen, 2011). In addition, using the middle-level managers of Chinese companies as the research object, a previous study has argued that an organization's investment in HPWS will increase the affective commitment of middle-level managers at the company level (Gong, Chang, & Cheung, 2010).

Therefore, this research proposes the following hypotheses:

H 1: HPWS will have a positive impact on employee attitudes and behaviors.

H 1-a: HPWS will promote organizational commitment.

b. The Relationship between HPWS and OCB

HPWS can significantly facilitate OCB. Based on the theory of resource conservation, employees are more willing to devote additional resources to more rewarding activities outside their work and often take the initiative to request challenging work other than their work to complete their work perfectly when work resources exceed work requirements. A previous study shows that employees with higher stages of resources invest additional work resources into teamwork and exhibit more OCBs, which also provide work resources for other team members (Halbesleben, Harvey, & Bolino, 2009).

OCB motivation can be elucidated using the theory of social exchange. The theory of the social exchange shows that individuals have a norm of reciprocity that substantially affects

behavior (Gouldner, 1960). Thus, social exchange is based on mutual trust with voluntariness and uncertainty of return (Eisenberger, Cotterell, & Marvel, 1987). HPWS that serve as a resource set makes employees perceive an organization's investment in them. If an employee is treated well by a company and the organization adopts some practices that are beneficial to employees, then employees will have a sense of obligation to pay back through more work effort and loyalty to the organization or the supervisor. These reward behaviors are part of OCB.

Using employees in North-East England as a sample, a previous study suggested that HPWS can have a significant influence on OCB by employing companies' support and work impact as intermediate variables (Snape & Redman, 2010). Moreover, using the hotel industry in China as a sample, a former study finds that high-performance human resource systems can promote service-oriented OCB (Sun, Aryee, & Law, 2007). Similarly, a previous study investigated employees of a large multi-sector food service company and found that HPWS can hugely enhance OCB (Kehoe & Wright, 2013).

Additionally, a previous study used data about 700 Chinese employees to prove that the connection between HPWS and OCB is affected by multiple contingency factors, likely the social responsibility of a company, affective commitment, and employee satisfaction with the HRM system (Zhang, Fan, & Zhu, 2014). Using Chinese companies as the sample, a previous study found that they are significantly positive by correlating the cross-level effect of strategic human resources management on employees' OCB and HPWS (Li & Yu, 2017).

Through a questionnaire survey about employees and their leaders in Chinese companies, scholars have suggested that HPWS have a momentous positive connection with employees' in-role performance and OCB (Zhong, 2013). Analysis of a large-scale listed state-owned telecommunications company in Guangdong, China shows that companies can use human

resource practice and follow the principle of reciprocity to promote employees' OCB (Xiao, 2006).

Furthermore, the literature has found that SHRM positively affects employees' OCB through psychological empowerment by studying companies in the following five cities in China: Changsha, Guangzhou, Beijing, Shanghai, and Hangzhou (Yan & Chen, 2016).

Therefore, this research put forward the following hypotheses:

H1-b: HPWS will promote OCB.

2. The Relationship between HPWS and Organizational Justice

Employees will form a certain perception of the treatment that they receive in their organization. Employees' sense of organizational justice can be enhanced through a series of HRMP in HPWS, such as scientific and accurate evaluation, and compensation system construction. Rational decision is usually affected by people's sense of fairness and social fairness norms.

HPWS have a positive impact on organizational justice. Research shows that HRMP, such as personnel selection, performance evaluation, and incentive systems, are positively relationship to employee organizational justice (Greenwood, 2002). Organizational justice is the fair feeling of employees in an organization about the organizational systems, policies, and measures related to the employees' interests. HPWS are just a series of policies and institutionalized activities through which human resources meet a company's strategic goals with a high degree of consistency within the company (Huselid, Jackson, & Schuler, 1997). In the Chinese context, HPWS include a series of HRMP, such as selective hiring, performance

appraisal, extensive training, information sharing, extensive benefits, work team, employment security, contingent compensation, career path, and advancement, as well as participating in decision making through teams (Gong, Chang, & Cheung, 2010; Wang, 2011). Employee participation in performance evaluation can affect their sense of control over the process, and it is related to whether they have an opportunity to utter their advocates, which they will consider as fair treatment (Wang, Long, & Liu, 2005). An organization's extensive training of employees can enable them to gain skills and space for further development. It also makes employees feel the trust, attention, and support of their organization. Thus, employees will be more prone to accept a company's decision and consider it fair (Zhang, Liu, Zhang, & Wang, 2011).

Tyler (1987) found that providing employees with opportunities to express their opinions can improve employees' sense of justice through a survey of Chicago citizens. Data from Kuwait business organizations display that employees' attendance in decision-making is a positive relationship with procedural justice perceptions (Muhammad, 2004). In another study of student volunteers enrolled in some courses about high-level management at a large public university, these results indicated that a good performance evaluation system can improve employees' perception of procedural justice (Bartol, Durham, & Poon, 2001).

Using Chinese companies as the research object, a previous study conducted an exploratory factor analysis of 30 HRMP that may constitute HPWS. The study of the correlation analysis of the factors displays that employee participation, education, and performance appraisal have a significant positive connection with procedural justice (Zhang, Huang, & Li, 2004). Previous research showed that company performance management has a certain impact on the organizational justice of knowledge workers by studying a sample of companies in the financial, IT, manufacturing, and investment industries in Beijing (or

headquartered in Beijing) (Li, 2008).

Based on the background of companies in the fields of insurance, finance, banking, printing, manufacturing, retail, and education in Wuhan, China, a previous study proved that performance management (clear work goals for employees, employee participation in goal setting, employee work feedback, organizational work support, performance appraisal, performance pay, and performance rewards) have a compelling effect on organizational justice; out of which performance appraisal has the most significant impact (Wang, Long, & Liu, 2005).

A previous study investigated state-owned companies in Jiangsu Province, and found that salary structure, performance salary, and post salary in salary management have a significant impact on employee distributional justice (Ma, Zhu, Zhang, & Xu, 2011). Moreover, post salary, performance salary, employee participation, and salary communication in salary management have a significant impact on employee procedural justice.

Another study found that the difference in performance pay perceptions is negatively related to the distributional justice researching Chinese companies in the high-tech industries, traditional manufacturing, service industries, and other fields (Yu & Chen, 2017).

Therefore, it is suggested that:

H 2: HPWS will enhance organizational justice.

H2-a: HPWS will enhance distributional justice.

H2-b: HPWS will enhance procedural justice.

3. Organizational Justice, Organizational Commitment, and OCB

a. The Relationship between Organizational Justice and Organizational Commitment

Generally, it is well known that distributional and procedural justice can effectively predict organizational commitment, which can be demonstrated using the theory of the psychological contract (Allen & Meyer, 1990), which is described as the unwritten contract and emphasizes the implicit expectation between employees and their companies. Moreover, the psychological contract is the sum of common prospects between an organization and its employees (Levinson, Price, Munden, Mandl, & Solley, 1962). According to the psychological contract theory, violating the psychological contract will have a significant negative influence on an employee's feelings and behavior. However, organizational justice can reduce employees' violations of perceived psychological contracts and enhance employees' organizational commitment.

Formal procedures are established by the organization, thus procedural justice has the greatest relationship with the organization as a whole. When employees observe that these procedures are fair, their corresponding return to the organization is a more positive attitude toward the entire organization (Masterson, Lewis, Goldman, & Taylor, 2000). A previous study about salespeople in industries such as pharmaceuticals, insurance, electronics, and manufacturing indicates that procedural and distributional justices are a positive association with organizational commitment. Distributional justice is more vital for organizational commitment than procedural justice (Roberts, Coulson, & Chonko, 1999).

Chinese scholars conducted a study on organizational commitment and suggested that distributional justice has a large impact on affective and normative commitment from the perspective of social network analysis (Zhang & Li, 2007). Using some departments of the

provincial government and companies in Wuhan and Yichang, Hubei Province, a previous study proved that organizational justice has a large predictive influence on organizational commitment (Liu, Long, & Li, 2003).

Similarly, a previous study examined the connection between employee justice and human resources compensation strategies and organizational commitment by studying employees in Hangzhou, Shanghai, Wuhan, Ningbo, and other regions. The study found that procedural justice affects employees' affective commitments, normative commitments, and continuous commitments. Distributinal and interactional justices are also a positive connection with affective commitment (Chen, 2003).

In the research about hotels, banks, and telecommunication companies, a previous study employed a structural equation model to prove that organizational justice can enhance organizational commitment (Ke, Huang, & Yao, 2007). Moreover, targeting companies in Jiangsu, Zhejiang, Shanghai, Shandong, Guangxi, and other places in China, the biggest impact on continued commitment is procedural justice (Tian, 2014).

Using companies in Xi'an and Changzhou as the research sample, it is well known that the organizational justice felt by employees could potentially promote their affective commitment. Survey data collected by Chinese accountants, engineers, software designers, and lawyers show that salary justice (distributinal justice, procedural justice, and interactive justice) can potentially promote organizational commitment of knowledge workers (Fan, Yan, & Zhang, 2014). Distributinal justice can predict organizational commitment than procedural justice (Li & Zhang, 2008). In addition, in empirical research of the Nanjing branch of a Chinese commercial bank, it is found that procedural and distributinal justices are an important association with organizational commitment (Jiang, 2007).

Therefore, the research proposes the following hypotheses:

H 3: Organizational justice will facilitate employees' feelings and behaviors.

H 3-a1: Distributinal justice will facilitate organizational commitment.

H3-a2: Procedural justice will facilitate organizational commitment.

b. The Relationship between Organizational Justice and OCB

OCB is largely driven by a sense of fairness (Organ, 1990). Organizational justice significantly enhances OCB, that is, the higher the level of organizational justice, the more it promotes OCB (Farh, Earley, & Lin, 1997). Based on the psychological contract theory, if group members trust that their positive behaviors can be rewarded by their organization, they will demonstrate more positive behaviors that are beneficial to the company when they sense that they are given some fair treatments. The feeling of being treated fairly can make members have positive emotions. Positive emotions can make employees demonstrate more altruistic and mutual assistance behaviors.

Examining the connection between justice and OCBs through the sample drawn from companies in the mid-western US, a previous study has suggested that there is an obvious connection between procedural justice and OCB, but distributinal justice and OCB are not related (Moorman, 1991). Moreover, conducting about the national theater management company, a previous study suggested that when employees feel that organizational distribution is unfair, they will reduce their input (OCB) to eliminate unfairness (Niehoff & Moorman, 1993).

A previous study about a hospital in the south-central United States shows that employees' trust in leaders completely conciliates the connection between procedural justice

and OCB (Konovsky & Pugh, 1994). Previous research proved that the influence of procedural justice on OCB is confirmed through perceived organizational support by obtaining and analyzing data from employees and their supervisors in a large military hospital (Moorman, Blakely, & Niehoff, 1998).

Similarly, using Canadian trade unions as the research object, it is proved that the more employees perceive organizational justice, the better they can show OCB (Skarlicki & Latham, 1996). Using a sample of the China Hong Kong office of a multinational bank, previous research finds a compelling positive association between procedural justice and OCB (Chen, Lam, Naumann, & Schaubroeck, 2005).

A previous survey used employees from productive, service-oriented, high-tech, consulting, investment, and sales companies as research samples to test the connection among individual emotional intelligence, organizational justice, and OCB in the organization, and previous research indicated a significant active association between organizational justice and OCB (Yu & Zhong, 2008). In addition, using a private company in Jiangsu, China as a survey subject, previous research showed that organizational justice can accelerate OCB (Chen & Feng, 2010).

A previous study conducted surveys on primary and secondary schools in Chenzhou, Hunan, and Chongqing and found that the fairness of school organizational procedural justice is a compelling positive prophet of teachers' OCB (Pan, Tan, Qin, & Wang, 2010). Using companies in the Pearl River Delta region (mainly Guangzhou, Shenzhen, Dongguan, and Zhongshan) as a sample, a previous study proved that that employee organizational justice and OCB are positively correlated by using structural equation modeling (Yan & Zhang, 2010).

Therefore, this research proposes the following hypotheses:

H 3-b1: Distributinal justice will promote OCB.

H 3-b2: Procedural justice will promote OCB.

4. The Mediating Effect of Organizational Justice

HPWS promote organizational justice, and organizational justice can greatly enhance organizational commitment/OCB. The connection between HPWS and employee attitudes/behaviors has been systematically discussed in the previous section. Moreover, it could be deduced theoretically that organizational justice acts an intermediate role between HPWS and organizational commitment/OCB. The impact of HPWS on workers' feelings and behaviors is achieved by strengthening organizational justice. Therefore, improving the connection and psychological contract between employees and an organization can greatly enhance employees' attitudes towards their work.

The theory of social exchange has demonstrated that employees determine their level of investment by comparing what they pay and what they get during the social exchange between them and organizations. Moreover, procedural justice plays an intermediate role between HRMP and intra-role or out-role performance in previous research on Canadian hospitals (Tremblay, Cloutier, Simard, Chenevert, & Vanden, 2010). Surveying some companies in China, Singapore, and Taiwan, previous research found that HPWS at the company level can substantially enhance employee emotional commitment at the individual level, and procedural justice plays an intermediate role in the connection between them (Wu & Chaturvedi, 2009).

Similarly, another study about some companies in Ireland found that employees' distributinal justice and procedural justice play an intermediate part between HPWS and affective commitment by using a cross-level analysis (Heffernan & Dundon, 2016). Some

survey data from a grocery store chain in the eastern of the U.S. documented that procedural justice plays an intermediate part in the connection between leadership behavior and OCB (Ehrhart, 2004).

Moreover, a previous study on some companies in Hangzhou, China, proved that employee compensation justice (distributional justice and procedural justice) also plays an intermediate part when the characteristics of the corporate compensation scheme affect employee's performance (Yu, 2005). Previous research on companies and public institutions in Jiangsu and Shandong provinces in China found that HPWS are positively correlated with employees' organizational identification, in which procedural justice plays a partial positive mediating part (Huang & Liu, 2016).

A previous empirical study on Chinese companies in Shanghai, the Yangtze River Delta, and the Pearl River Delta found that organizational justice acts as an intermediate function between participatory management and a harmonious atmosphere of labor-management relationship (Chen, Ding, & Yu, 2013). In addition, collecting some survey data from state-owned commercial banks in South China, previous research suggested that distributional justice, procedural justice, and interpersonal justice can largely intermediate the connection between HPWS and organizational identification (Liu, Chow, & Huang, 2019).

Accordingly, the study proposes the following hypotheses:

H 4: Organizational justice produces an intermediate impact between HPWS and employee attitudes and behaviors.

H 4-a1: Distributional justice will have an intermediate impact between HPWS and organizational commitment.

H 4-a2: Procedural justice will have an intermediate impact between HPWS and organizational commitment.

H 4-b1: Distributional justice will produce an intermediate impact between HPWS and OCB.

H 4-b2: Procedural justice will produce an intermediate impact between HPWS and OCB.

IV. RESEARCH DESIGN AND EMPIRICAL ANALYSIS

This chapter explains questionnaire design, variable measurement, data collection and statistics, and the use of SPSS and HLM software for hypothesis testing.

A. Research Design

1. Survey

The development of the questionnaire for use in this study was as follows:

a. This study adopts a developed measurement scale that is widely used in research about Western countries. All measurement tools are translated from English into Chinese by using translation and back translation procedures. First, two doctoral students majoring in management translated the English measurement tools from English into Chinese as concisely, clearly, and accurately as possible. Second, a Chinese scholar whose major is English back-translated them from Chinese into English. Finally, to ensure the comprehension and accuracy of the Chinese scale, the two doctoral students and this English scholar thoroughly discussed and revised the material and then determined the Chinese scale together.

b. The questionnaire is in three parts. The introduction forms the first part. It explains the questionnaire objective, as well as issues of confidentiality, including the contact information of the respondents. The focus of the second part is to investigate HPWS, organizational justice, organizational commitment, and OCB. This questionnaire's third section is a survey of demographic data. Its purpose is to understand the information submitted by employees and companies. (See Appendix 1 for details.) To evaluate the HPWS, organizational justice, organizational commitment, and OCB, this questionnaire used the 5-point Likert scale.

Number "1" represents complete inconsistency, number "2" represents relative inconsistency, number "3" represents neither consistency nor inconsistency, number "4" represents relative consistency, and number "5" represents complete consistency.

2. Variable Measurements

a. Independent Variable: HPWS

Previous research indicates seven common practices on HRM: HPWS, including internal promotion opportunities, training systems, performance appraisal, safety at work, employee participation, work analysis, and profit-sharing (Delery & Doty, 1996). The study primarily adopts a questionnaire originally compiled by Delery & Doty (1996), with the situation of Chinese companies appropriately modified. The questionnaire includes seven dimensions and 17 items shown in the questionnaire in the appendix.

b. Mediating Variable: Organizational Justice

The thesis adopts the organizational justice scale designed by Nichoff & Moorman (1993). Cronbach's α coefficients of each subscale in the Nichoff & Moorman (1993) questionnaire are all higher than 0.9. The study combines actual conditions of Chinese companies in relation to the integration, and modifies the scale to measure organizational justice to include two further dimensions: distributional and procedural justice. In total, 11 items are displayed in the questionnaire shown in the appendix in detail.

c. Dependent Variable 1: Organizational Commitment

Although the three-factor organizational commitment scale is well regarded, it was revised and improved, notably by Meyer & Allen (1997), to include the affective commitment

scale, continuous commitment scale, and normative commitment scale. This study chiefly uses the affective and normative commitment scales. I modify them according to Chinese companies' specific conditions. In addition, 10 items measuring the organizational commitment scale are included, with five items included for affective commitment and normative commitment shown in the questionnaire in the appendix.

d. Dependent Variable 2: OCB

The study uses the questionnaire, originally developed by Coyle-Shapiro & Kessler (2002), to measure OCB. Combining aspects of China's cultural environment and the actual conditions of companies in that country, the study uses a version of the questionnaire specially created for the Chinese context so. As to measuring the employees' OCB. This involves the use of six separate items shown in the questionnaire in the appendix.

e. Control Variable

Organizational-level variables and individual-level variables could have a positive or negative effect on a research model. Previous studies indicate that there are significant differences between different aspects of HPWS, including company size, company ownership, company industry, and company history (Wang, 2009; Jiang & Zhao, 2004; Ding, Goodall, & Warner, 2000). In addition, the position, gender, age, and educational level of respondents affect to different degrees both organizational commitment and OCB (Du, 2005).

My study takes company organizational and individual employee characteristics as control variables. Specifically, control variables at the company level include company size, company ownership, company industry, and company history. At the individual-level, these control variables include age, position, gender, and level of education. For full details, see the questionnaire in the appendix.

The research chiefly focuses on organizational-level company information's effects on HPWS, and the effect of related differences about individuals' information on organizational justice, organizational commitment, and OCB.

3. Data Collection and Analysis

This research uses a random sampling method to select some Chinese companies. The companies surveyed are located in the Yangtze River Delta, Beijing-Tianjin-Hebei region, Pearl River Delta, Central and Western regions, as well as Northeast China. The questionnaires were distributed over more than two months, from January 15 to March 31, 2021. To ensure high quality of responses, the questionnaire's importance, purpose, content, and confidentiality were initially discussed in detail with colleagues, friends, and family before distribution. In addition, the types of groups in these surveyed companies were clearly defined to encourage respondents to express their thoughts both accurately and honestly.

The questionnaires were distributed both online and offline. The online surveys were conducted using the "Questionnaire Star", which is commonly used in China. The questionnaires were distributed among 55 companies, but data from 50 companies were retrieved. Moreover, the questionnaires were distributed to 62 companies offline (39 were directly interviewed, and 23 were given paper questionnaires). The data of 51 companies were recovered. It took an average of two weeks to conduct the survey (the questionnaires from 34 companies were collected on-site, and the other questionnaires from 17 companies were collected via express delivery). The sum of 1,755 questionnaires was distributed to 117 companies in China. To ensure the high quality and validity of the data analysis, the questionnaires collected were strictly checked and screened. If all responses in the questionnaire have the same choices, or more than three questions are not answered, the questionnaire is regarded as faulty and not used in the research. Finally, 1,358 valid

questionnaires from 101 companies were valid, that is, 77.37%.

4. Samples

The study uses SPSS 25.0 version to conduct statistical analysis on 1358 samples. The distribution of questionnaire respondents is shown in Table 1-1. Among 1358 respondents, males account for 60.2% and females for 39.8%. Regarding age, the 20-39 age group is the most represented, accounting for 74.2% overall. In terms of position, general employees are the most represented, with 60%. Regarding educational level, 40.6% are bachelor's degrees, and 49.2% are under bachelor's degrees.

<Table 1-1> Sample of Individuals

Variables	Distinguish	Frequency	Percentage (%)
Position	employees	815	60.0
	team leader	174	12.8
	department head	257	18.9
	executive	112	8.2
Gender	males	817	60.2
	females	541	39.8
Education	high school	240	17.7
	junior college	370	27.2
	bachelor degree	551	40.6
	master degree	126	9.3
	doctoral degree	12	0.9
	others	59	4.3
Age	under 20	25	1.8
	20-29	470	34.6
	30-39	538	39.6
	over 40	325	23.9

The distribution of surveyed companies is shown in Table 1-2. It is impossible to thoroughly analyze every industry due to the extensive industry distribution of Chinese companies.

<Table 1-2> Sample of Organizations

Variables	Distinguish	Frequency	Percentage (%)
Industry	manufacturing	378	27.8
	non-manufacturing	980	72.2
Company Ownership	private company	932	68.6
	state-owned company	426	31.4
Company History	less than 3 years	25	1.8
	3-4 years	113	8.3
	5-10 years	141	10.4
	more than 10 years	1079	79.5
Company Size	less than 50 people	145	10.7
	50-99	268	19.7
	100-199	144	10.6
	200-500	133	9.8
	more than 500 people	668	49.2

Thus, in this research survey, the types of industry of the surveyed companies are divided

into manufacturing and non-manufacturing. The manufacturing includes power plants, new energy, steel manufacturing, construction materials, chemical raw materials, chemical products, textiles, wineries, and food manufacturing, whereas the non-manufacturing comprises retail, high-tech, biomedicine, service, finance, and education. Among the 1,358 respondents, manufacturing accounts for 27.8% and non-manufacturing for 72.2%. Concerning company ownership, private companies comprise 68.6%, and state-owned companies 31.4%. In relation to when the company is established, 79.5% have existed for at least 10 years. Regarding company size, those with more than 500 employees comprise nearly half: 49.2%.

B. Empirical Analysis

1. Validity and Reliability

In the study, SPSS25.0 is used to verify the feasibility of variables. The main method used is to perform characteristic roots greater than 1 on each scale of the questionnaire. This enables carrying out the principal component factor rotation of the Caesar normalized maximum variance method and exploratory factor analysis, freely extracting the number of factors. In the study, HPWS, organizational justice, OCB, and organizational commitment are three kinds of factor analyses, shown respectively in Tables 2-1, 2-2, and 2-3.

a. HPWS

During factor analysis of the independent variables, three of the 17 problems of HPWS are not included in the HPWS factors shown in Table 2-1. The HPWS are divided into two common factors: HPWS 1-7, 11, 15, 16, and 17, which together constitute the first common factor, with the credibility of 0.888. HPWS 8, 9, 10 together constitute the second factor of

employment security, with the credibility of 0.701. The Alpha coefficient of each factor of HPWS is larger than 0.7, implying that HPWS have good internal consistency.

<Table 2-1> Exploratory Factor Analysis of HPWS

Variables	Question	Factor Value		Alpha
		1	2	
	HPWS1	0.736	0.160	
	HPWS2	0.707	0.121	
	HPWS3	0.696	0.184	
	HPWS4	0.621	0.347	
	HPWS5	0.619	0.284	
HPWP1	HPWS6	0.693	0.234	0.888
	HPWS7	0.629	0.304	
	HPWS11	0.643	0.292	
	HPWS15	0.666	0.190	
	HPWS16	0.585	0.195	
	HPWS17	0.542	0.310	
	HPWS8	0.237	0.733	
HPWP2	HPWS9	0.147	0.842	0.701
	HPWS10	0.351	0.650	
	Total	4.864	2.349	
	% of Variance	34.742	16.777	
	Cumulative % of Variance	34.742	51.519	

b. Organizational Justice

During factor analysis of the intermediate variables, only one of the 11 issues of organizational justice is not included in its factor. An exploratory factor analysis of principal components of organizational justice finds that organizational justice variables can be divided into two factors, as shown in Table 2-2.

< Table 2-2 > Exploratory Factor Analysis of Organizational Justice

Variables	Question	Factor Value		Alpha
		1	2	
Distributional Justice	Justice1	0.362	0.675	0.824
	Justice2	0.294	0.786	
	Justice3	0.327	0.777	
	Justice4	0.358	0.690	
	Justice6	0.643	0.395	
Procedural Justice	Justice7	0.717	0.326	0.869
	Justice8	0.677	0.380	
	Justice9	0.781	0.228	
	Justice10	0.710	0.327	
	Justice11	0.624	0.446	
Total		3.341	2.918	
% of Variance		33.412	29.176	
Cumulative % of Variance		33.412	62.588	

Organizational justice is divided into two factors: the first, related to distribution justice,

has four questions, while the second, with six questions, is related to procedural justice. The Alpha coefficients of the two factors of distribution justice and organizational justice are both significantly greater than 0.7, indicating high reliability.

c. Organizational Commitment and OCB

During factor analysis of dependent variables, five of the six issues of organizational citizenship behavior are classified as one factor, with the credibility of 0.815. Ten issues of organizational commitment are classified as one factor, with the credibility of 0.899. Korean scholars suggested that even if employees demonstrate normative commitment in their organization, they still show affective commitment to justify their actions. This also means that the sense of obligation could be regarded as a specific attachment to a company (Ahn & Lee, 2018). Chinese scholars found that a good correlation exists between affective commitment and normative commitment, and the good correlation is usually considered to be two sides of the same thing. Moreover, because they are affected by Chinese collectivist culture, there are deviations in employees' understanding of the scale items of normative commitment and affective commitment and thus analyze affective commitment and normative commitment as one factor (Wu, 2010). Therefore, it is reasonable for this research to group the two dimensions of organizational commitment into one factor for the exploratory factor analysis. Alpha coefficients of organizational commitment and OCB are both larger than 0.7, suggesting that the reliability of both scales is well. Relevant details are shown below in Table 2-3.

<Table 2-3> Exploratory Factor Analysis of Organizational Commitment and OCB

Variables	Question	Factor Value		Alpha
		1	2	
OCB	OCB1	0.198	0.792	0.815
	OCB2	0.318	0.720	
	OCB3	0.390	0.606	
	OCB4	0.359	0.639	
	OCB5	0.415	0.608	
Commitment	commitment1	0.573	0.368	0.899
	commitment2	0.701	0.253	
	commitment3	0.623	0.345	
	commitment4	0.640	0.380	
	commitment5	0.632	0.346	
	commitment6	0.698	0.217	
	commitment7	0.697	0.256	
	commitment8	0.646	0.292	
	commitment9	0.623	0.398	
	commitment10	0.637	0.350	
Total		4.794	3.355	
% of Variance		31.960	22.369	
Cumulative % of Variance		31.960	54.329	

2. One-way ANOVA

In this study, the organization-level variables of HPWS are reflected by individual employees. When data collected at the individual level is applied to the organizational level, the reliability of the aggregated data must be measured. First, the ANOVA analysis with HPWS variables as the dependent variables finds significant differences in the variables at the organizational level, as shown in Table 3. The usage of ICC(1) and ICC(2) is common to estimate the reliability of additive variables. ICC(1) is the measure of interrater reliability (interrater reliability). In organization-related research, the value of ICC(1) ranges from 0.0 to 0.5, with a median of 0.12 (James, 1982). In this study, the ICC(1) value of the HPWS variable is 0.599.

<Table 3> ANOVA, η^2 , ICC(1), and ICC(2)

	Sum of Square	df	Mean Square	F	Sig.	ICC (1)	ICC (2)	η^2
Between groups	363.552	100	3.636					
HPWS Within groups	253.267	1257	.201	18.044	.000	.559	.944	.589
Total	616.819	1357						

$$ICC(1) = \frac{MSB - MSW}{MSB + [(k-1) * MSW]}$$

MSB: between-group means square, MSW: within-group mean square, k: arithmetic mean of the group size.

$$ICC(2) = \frac{MSB - MSW}{MSB}$$

ICC(2) measures the reliability of the group average (Bartko, 1976). Related research suggested that ICC(2) should be 0.7 (Lance, Butts, & Michels, 2006). In this study, the ICC(2) value is 0.944. In addition, this study calculates the η^2 value, which is the proportion of the inter-group variable in the entire variable. The verification results of ANOVA, ICC(1), ICC(2), and η^2 show that no significant difference can be observed in the summation and use of personal data at the organizational level, so the data can be analyzed at the organizational level.

3. Descriptive Statistics and Correlation Analysis

Table 4-1 and Table 4-2 show the average value, standard deviation, and correlation information of the corresponding variables, at individual and organizational levels, respectively. The data in Tables 4-1 and 4-2 show that the average values of organizational commitment, OCB, and HPWS are 4.099, 4.112, and 3.982, respectively, demonstrating that the overall level of HPWS, organizational commitment, and OCB of Chinese employees is relatively high, and the results are consistent with those of other Chinese scholars (Qi, 2018; Zhang & Liu, 2015; Zhou, 2010).

As shown in Table 4-1, from the perspective of interrelationships between the variables, we can note a positive association between distributive justice, organizational commitment, and OCB. The same is true for procedural justice, organizational commitment, and OCB. On the other hand, both distributive justice ($r = -0.07$, $p < 0.05$) and procedural justice ($r = -0.087$, $p < 0.01$) are negatively associated with age, while organizational commitment is positively related with gender ($r = 0.056$, $p < 0.05$). Consequently, relevant data on the main variables shown in Table 4-1 initially verify hypothesis 3.

Non-employment and employment security dimensions of the HPWS are processed into HPWS variables through summation. The organizational-level variables are put together for

related analysis. As shown in Table 4-2, data on the HPWS are positively related to company size ($r = 0.219, p < 0.01$), and do not correlate with other organizational variables.

<Table 4-1> The Mean, Standard Deviation and Correlation Coefficient between the Main Variables (Individual-level)

Variables	Mean	SD	1	2	3	4	5	6	7	8
Position (1)	1.75	1.029	1							
Gender (2)	1.40	.490	-.031	1						
Education (3)	2.61	1.162	.224**	.011	1					
Age (4)	2.86	.799	.430**	-.066*	.080**	1				
Distributional justice (5)	3.944	.819	.028	.018	-.001	-.070*	1			
Procedural Justice (6)	3.931	.813	.045	.011	-.027	-.087**	.771**	1		
Commitment (7)	4.099	.707	.046	.056*	.028	-.027	.717**	.764**	1	
OCB (8)	4.112	.712	.037	.028	.029	-.033	.687**	.738**	.782**	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Gender: ① males, ② females.

n=1358

<Table 4-2 > The Mean, Standard Deviation and Correlation Coefficient between the Main Variables (Organizational level)

Variables	Mean	SD	1	2	3	4	5
Industry (1)	1.721	0.448	1				
Company Size (2)	3.67	1.497	0.208**	1			
Company History (3)	3.67	0.705	0.140**	0.459**	1		
Company Ownership (4)	1.31	0.464	0.140**	0.220**	0.155**	1	
Hpws (5)	3.982	0.674	0.021	0.219**	0.053	0.036	1

*p < 0.05, **p < 0.01, ***p < 0.001

company ownership: ① private company, ② state-owned company;

industry: ① manufacturing, ② non-manufacturing

Hpws = HPWP (Employment security) + HPWP (Non-employment security) / 2

N=101

4. Analysis of HLM Results (Cross-level Hypothesis Testing)

HLM can be used to conduct the iterative investigation of multi-level relationships and individual level-dependent variables (Hofmann, 1997; Hoffman, Griffin & Gavin, 2000). Data in the study comprises employees (n=1358) and their companies (N=101). Data can be

identified at two-level: level 1 – individual-level and level 2– organizational-level. Level 1 refers to organizational justice, organizational commitment, and OCB within companies. Level 2 refers to HPWS about companies’ organizational variables. The research uses HLM 8.2 for hypothesis testing. Significant coefficients of the predictors of intercept and slope provide evidence of cross-level relationships.

a. Research findings on the Impact of HPWS on Organizational Commitment and OCB

To test the effect of HPWS on organizational commitment and OCB, the study uses the HLM analysis method. Results are shown in Table 5, Model 1, and Model 2.

The research examines the impact on organizational commitment and OCB of individual variables (such as employee position, gender, education level, and age) and organizational variables (such as industry, company size, company history, company ownership, and HPWS). Hypothesis 1a and Hypothesis 1b respectively propose that HPWS could enhance organizational commitment and OCB. To test Hypothesis 1a and Hypothesis 1b, further individual variables are added to level 1 and level 2 respectively: employee position, age, education level, and gender, and organizational variables: company industry, company size, company history, company ownership, and HPWS.

Model 1 in Table 5 indicates that HPWS could promote organizational commitment ($\beta = 0.199, p < 0.05$). Model 2 data shows that HPWS have a compelling predictive impact on OCB ($\beta = 0.347, p < 0.001$). The length of time that a company is established has a positive predictive effect on OCB ($\beta = 0.155, p < 0.05$). On the other hand, employees’ educational level could harm OCB ($\beta = -0.280, p < 0.05$). Following the above analysis, we see that HPWS could enhance both organizational commitment and OCB. Consequently, hypotheses 1a and 1b are confirmed.

<Table 5> HLM Analysis of the effect of HPWS on Organizational Commitment and OCB

Variables	Model 1		Model 2	
Intercept	4.523***	(0.285)	4.976***	(0.283)
Level 1 variables				
Position	0.006	(0.060)	0.038	(0.033)
Gender	0.033	(0.075)	-0.021	(0.042)
Education	-0.130	(0.118)	-0.280*	(0.122)
Age	-0.028	(0.069)	-0.079	(0.052)
Level 2 variables				
Industry	-0.117	(0.101)	0.017	(0.095)
Company Size	-0.001	(0.040)	-0.010	(0.040)
Company History	0.079	(0.066)	0.155*	(0.060)
Company	-0.120	(0.204)	0.086	(0.229)
Hpws	0.199*	(0.076)	0.347***	(0.087)

Model 1-Level-1: $COMMIT_{ij} = \beta_{0j} + \beta_{1j}*(Position_{ij}) + \beta_{2j}*(Gender_{ij}) + \beta_{3j}*(Educational level_{ij}) + \beta_{4j}*(Age_{ij}) + r_{ij}$

Level-2: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(Industry_j) + \gamma_{02}*(Company size_j) + \gamma_{03}*(Company history_j) + \gamma_{04}*(Company ownership_j) + \gamma_{05}*(Hpws_j) + u_{0j}$

Model 2-Level-1: $OCB_{ij} = \beta_{0j} + \beta_{1j}*(Position_{ij}) + \beta_{2j}*(Gender_{ij}) + \beta_{3j}*(Educational level_{ij}) + \beta_{4j}*(Age_{ij}) + r_{ij}$

$$\text{Level-2: } \beta_{0j} = \gamma_{00} + \gamma_{01}*(\text{Industry}_j) + \gamma_{02}*(\text{Company size}_j) + \gamma_{03}*(\text{Company history}_j) + \gamma_{04}*(\text{Company ownership}_j) + \gamma_{05}*(\text{Hpws}_j) + u_{0j}$$

The Level-2 n is 101 and The Level-1 n is 1358.

*p<0.05, **p<0.01, ***p<0.001. Standard error is inside ().

b. Research findings on the Impact of HPWS on Organizational Justice

Hypothesis 2a and Hypothesis 2b suggest that HPWS can significantly facilitate distributional justice and procedural justice.

The Model 3 data in Table 6 show that HPWS have a positive predictive influence on distributional justice ($\beta = 0.272$, $p < 0.05$), while the level of education has an adverse effect ($\beta = -0.372$, $p < 0.05$). Data in Model 4 show that HPWS have no predictive effect on procedural justice ($\beta = 0.111$, $p > 0.05$), while the educational level of workers has a significantly negative influence on procedural justice ($\beta = -0.097$, $p < 0.01$). It can be concluded that HPWS could promote distributional justice but do not affect procedural justice, meaning that Hypothesis 2a is verified but Hypothesis 2b is not verified.

<Table 6 > HLM Analysis of the Effect of HPWS on Organizational Justice

Variables	Model 3		Model 4	
	(Distributinal justice)		(Procedural justice)	
Intercept	4.846***	(0.408)	5.259***	(0.411)
Level 1 variables				
Position	0.058	(0.094)	0.059	(0.072)
Gender	-0.199	(0.112)	-0.097	(0.115)
Education	-0.372*	(0.170)	-0.097**	(0.115)
Age	-0.025	(0.103)	-0.113	(0.080)
Level 2 variables				
Industry	0.203	(0.184)	-0.104	(0.164)
Company Size	0.019	(0.051)	0.052	(0.058)
Company History	0.233	(0.130)	0.133	(0.094)
Company Ownership	0.164	(0.333)	0.259	(0.340)
Hpws	0.272*	(0.119)	0.111	(0.123)

The Level-2 n is 101 and The Level-1 n is 1358.

*p<0.05, **p<0.01, ***p<0.001. Standard error is inside ().

c. The Mediating Effect of Organizational Justice on HPWS, and Organizational Commitments, OCB

To test the intermediate effect of organizational justice, the research model includes a cross-layer nested model of organizational level variables (HPWS) and individual employee level variables (organizational commitment, OCB). This study uses the multi-level analysis method for testing.

Hypothesis 4a and Hypothesis 4b respectively propose that organizational justice acts as an intermediate function in the connection between HPWS and organizational commitment and OCB. Analysis results are present in Table 7.

As displayed in Model 5 of Table 7, when both HPWS and distributional justice are included in the organizational commitment for regression, the connection between HPWS and organizational commitment is insignificant ($\beta=0.103$, $p>0.05$). In addition, the association between distributional justice and organizational commitment is largely significant ($\beta=0.410$, $p<0.001$). Combined with the data of Model 1 in Table 5 and Model 3 in Table 6, this shows that distributional justice plays a significant intermediate function between HPWS and organizational commitment. Model 6 indicates that when both HPWS and procedural justice are included in the organizational commitment for regression, the association between HPWS and organizational commitment becomes more significant ($\beta=0.146$, $p<0.01$). Procedural justice also has an obvious relationship with the effects of organizational commitment ($\beta=0.461$, $p<0.001$). However, Model 4 in Table 6 displays that HPWS do not enhance procedural justice, and thus, procedural justice cannot play an intermediate part. Based on the above analysis, Hypothesis 4a is partially verified, and distributional justice plays a complete mediating effect between HPWS and organizational commitment, while procedural justice does not play an intermediate effect.

In addition, the two mediating variables of distributional justice and procedural justice are added to test the effect of HPWS on OCB. Model 7 of Table 7 shows that the impact of HPWS on OCB is still significant ($\beta = 0.146$, $p < 0.01$), but combined with Model 2 data in Table 5, it is clear that the regression coefficient of HPWS on OCB decreases from 0.347 to 0.146, while the impact of distributional justice on OCB is still compelling ($\beta = 0.333$, $p < 0.001$). This indicates that distributional justice plays a partially intermediate function between HPWS and OCB. Although Model 8 data show that the HPWS and procedural justice have a positive influence on OCB ($\beta = 0.318$, $p < 0.001$), data in Model 4 of Table 6 shows that HPWS do not affect procedural justice. As a result, procedural justice does not play an intermediate part between HPWS and OCB. Hypothesis 4b is partially confirmed.

<Table 7 > HLM Analysis Results of the Mediating Effect of Organizational Justice between Organizational Commitment and OCB

Variables	Model 5 (Organizational Commitment)		Model 6 (Organizational Commitment)		Model 7 (OCB)		Model 8 (OCB)	
Intercept	4.138***	(0.257)	3.939***	(0.216)	4.738***	(0.246)	4.554***	(0.245)
Level 1 variables								
Position	-0.007	(0.050)	-0.023	(0.043)	-0.005	(0.039)	0.020	(0.029)
Gender	0.108	(0.075)	0.124	(0.062)	0.069	(0.055)	-0.011	(0.050)
Education	0.035	(0.103)	0.117	(0.086)	-0.178	(0.102)	-0.102	(0.102)
Age	-0.038	(0.062)	0.033	(0.055)	-0.052	(0.050)	-0.054	(0.044)
Distributional Justice	0.410***	(0.063)			0.333***	(0.078)		

Procedural Justice			0.461***	(0.056)			0.318***	(0.059)
Level 2 variables								
Industry	-0.176*	(0.085)	-0.056	(0.062)	-0.056	(0.062)	0.055	(0.083)
Company Size	-0.016	(0.037)	-0.028	(0.027)	-0.028	(0.027)	-0.026	(0.032)
Company History	-0.013	(0.046)	0.011	(0.035)	0.011	(0.035)	0.114*	(0.052)
Company Ownership	-0.208	(0.151)	-0.230	(0.136)	-0.230	(0.136)	0.001	(0.170)
Hpws	0.103	(0.058)	0.146**	(0.052)	0.146**	(0.052)	0.315***	(0.064)

The Level-2 n is 101 and The Level-1 n is 1358.

*p<0.05, **p<0.01, ***p<0.001. Standard error is inside ().

5. Individual-level Hypothesis Testing

This study analyzes individual-level data using regression of SPSS 25.0. As displayed in Table 8, the regression formula using organizational commitment and OCB as the dependent variable indicates that the description ability of the model with the intermediate variables is higher than that which only uses individual-level control variables.

Hypothesis 3a-1 and Hypothesis 3a-2 propose that both distributional justice and procedural justice have a significant impact on organizational commitment. Moreover, Hypothesis 3b-1 and Hypothesis 3b-2 propose that both distributional justice and procedural justice can enhance OCB. The study uses hierarchical regression to test hypotheses 3a-1, 3a-2, and hypotheses 3b-1, 3b-2, with results shown in Table 8.

First, this thesis investigates the effect of distributional justice and procedural justice on organizational commitments in model 2 and model 3 in Table 8. Distributional justice ($\beta=0.717$, $p<0.001$) and procedural justice ($\beta=0.770$, $p<0.001$) both have a compelling impact on organizational commitment. As a result, hypotheses 3a-1 and 3a-2 are verified. Second, looking at models 5 and 6, we can see that both distributional justice ($\beta=0.687$, $p<0.001$) and procedural justice ($\beta=0.744$, $p<0.001$) have compelling predictive influences on OCB. As a result, Hypotheses 3b-1 and Hypothesis 3b-2 are confirmed.

Therefore, Hypothesis 3 is confirmed.

<Table 8> Regression analysis with Organizational Commitment and OCB as the Dependent Variables

Variables	Organizational Commitment			OCB		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Position	.067*	.015	-.017	.059	.009	-.023
Gender	.054*	.044*	.050**	.025	.016	.021
Education	.017	.023	.049**	.020	.026	.051**
Age	-.054	.017	.046*	-.058	.010	.039
Distributional justice		.717***			.687***	
Procedural justice			.770***			.744***
R²	.008*	.517 ***	.590***	.005	.474***	.549
ΔR²		.509	.582		.468	.543
F	2.767*	289.532 ***	389.102***	1.831	243.184***	328.937***
N	1358	1358	1358	1358	1358	1358

*p<0.05, **p<0.01, ***p<0.001.

6. Research Findings

This component focuses on conducting empirical analysis according to these survey data of 1358 employees in 101 Chinese companies. First, descriptive statistical analysis, feasibility and reliability analysis, and correlation analysis are undertaken to assess the quality of the questionnaire. Secondly, SPSS and HLM software is used to verify the hypothesis. As a result of linear regression and multi-level analysis, it is possible to verify the main hypotheses of the research. As shown in Table 9, the hypotheses proposed in this thesis are systematically verified.

<Table 9> Summary of Hypothesis Test Results

Research Hypothesis	Outcome of Practice
H1-a: HPWS will promote organizational commitment.	Support
H1-b: HPWS will promote OCB.	Support
H2-a: HPWS will enhance distributional justice.	Support
H2-b: HPWS will enhance procedural justice.	Reject
H3-a1: Distributional justice will facilitate organizational commitment.	Support
H3-a2: Procedural justice will facilitate organizational commitment.	Support
H3-b1: Distributional justice will promote OCB.	Support
H3-b2: Procedural justice will promote OCB.	Support
H4-a1: Distributional justice will have an intermediate impact between HPWS and organizational commitment.	Support (full mediation)
H4-a2: Procedural justice will have an intermediate impact between HPWS and organizational commitment.	Reject
H4-b1: Distributional justice will produce an intermediate impact between HPWS and OCB.	Support (partial mediation)
H4-b2: Procedural justice will produce an intermediate impact between HPWS and OCB.	Reject

V. CONCLUSIONS AND RECOMMENDATIONS

A. Theoretical Implication

This study finds that Chinese companies deeply reflect Chinese characteristics. These results of this study largely advocate the theoretical background of the thesis and provide certain theoretical enlightenment for future research.

The connection between HPWS and organizational commitment, OCB, and organizational justice exists at organizational and individual levels. Thus it requires cross-level analyses to investigate these relationships.

First, the results of the cross-level analyses show that HPWS at the organizational level can improve organizational commitment and OCB of employees at the individual level. For a long time, previous studies on the influencing factors of organizational commitment and OCB have centered on variables at the individual level, such as organizational support, leader-subordinate exchange, and procedural justice (Liu, Wang, & Brigitte, 2002; Wu & Wu, 2006; Xie, Xiao, Ren, & Shi, 2007). Research about the influencing factors of organizational commitment and organizational citizenship at the organizational level is not sufficient. Thus, this research focuses on HPWS at the organizational level and verifies its positive effect on employees' organizational commitment and OCB at the individual level, thereby enriching the research content of organizational commitment and OCB academically.

Second, although we find that HPWS are significant and positively correlated with the distributional justice of employees, this provides additional backing for the impact of HPWS on distributional justice (Ma, Zhu, Zhang, & Xu, 2011; Yu & Chen, 2017). However, the hypothesis that HPWS of Chinese companies promote procedural justice in China has not been supported. This

may be due to two reasons, first, procedural justice in this study refers to the “right to speak” and the “right to participate”. Some previous studies have displayed that workers with low levels of education are more likely to judge vivid and concrete situations, but it is more difficult for them to understand some abstract and theoretical discourses. The procedural justice that they understand may not include the so-called right to speak or participate but may rather understand their endeavors or something like that (Feng & Dai, 2011). In this study, the education level of 49.2% of the respondents is lower than the undergraduate level; thus, they may misconstrue procedural justice. Second, Chinese company management emphasizes relationship management and collectivism. To a large extent, emotional management and human relationship relationships are widely used in companies (Zhou, 2012). Organizational management experts believe that relationship is the key to understanding the local characteristics of Chinese organizational behavior (Chen & Chen, 2009; Farh, Tsui, Xin, & Cheng, 1998). Therefore, companies may be greatly affected by “relationships” in the process of implementing HPWS, which affects employees’ perception of procedural justice.

Using HLM, hypotheses (1) and (2) explore the cross-level associations between HPWS (an organizational-level variable) and employee attitudes, behaviors, and organizational justice (individual-level variables). These results indicate that HPWS are essential to improve employees’ organizational commitment, OCB, and organizational justice. High-performance work practices include internal promotion opportunities, training systems, performance appraisal, safety at work, employee participation, work analysis, and profit-sharing (Delery & Doty, 1996). Through reasonable internal promotion opportunities, a company meets the needs of employees to realize their self-worth and enhances their sense of belonging to a company. Extensive and systematic training systems largely improve the workability of employees. Strict and fair performance appraisal can improve the work performance of employees and tap their potentials, thereby achieving the performance goals of companies. Perfect guarantees of work

safety are conducive to improving employees' high level of commitment, satisfaction, and trust in their organization. High employee participation can enhance their sense of ownership and improve employees' intrinsic motivation for work. Detailed work analysis helps employees to understand work goals, improves work efficiency, and promotes the completion of tasks efficiently and effectively. Flexible profit-sharing improves employees' autonomous behavior and promotes a “win-win situation” for an organization and employees. When a company organically integrates different HRMP, it gives full play to the synergy of HPWS. This can enhance the organizational justice of employees, improve their organizational commitment and OCB, and ultimately enhance the company's competitive advantage. Based on a previous study on Korean companies in multiple industries, Korean scholars suggested that HPWS have a compelling influence on organizational commitment and organizational justice (Kwon, Kim, & Kim, 2012). This indicates that HPWS are applicable in both China and South Korea and further confirms the validity of this research model.

Third, hypothesis 3 summarizes the relationships among the individual-level variables. It shows that organizational justice has a significant predictive function on organizational commitment and OCB. In other words, to improve the organizational commitment and OCB of employees, it is essential to ensure distributional and procedural justice. This academically supports the advanced research of Chen (2003), Jiang (2007), Miao, Sun, & Liu (2012), Yan & Zhang (2010) on the organizational justice of organizational commitment. OCB has an active influence on the research results.

Finally, this thesis uses HLM to explore the cross-level hypothesis 4. It finds that distributional justice plays a complete mediating part in the association between HPWS and organizational commitment and partly mediates the connection between HPWS and OCB. This shows that when a company implements HPWS, which allows employees to gain a feeling of justice from a company,

they will trust the organization more and demonstrate more organizational commitment and OCB.

In my research, the mediating function of procedural justice in the connection between HPWS and organizational commitment and OCB has not been verified. This may be because Chinese cultural characteristics combine greater power distance, strong uncertainty avoidance, collectivism, and femininity. Large power distance means that superiors have greater influence and control over their subordinates. The traditional Chinese management emphasizes “official position”, pays attention to the “obedience” of the people, and does not emphasize the participation of the people in management (Wang, Long, & Liu, 2005), which largely affects employers and employees in Chinese companies. This is worth further study.

B. Managerial Implication

From a practical perspective, the results of this thesis have some management implications.

First, this research provides some meaningful enlightenment for companies to improve employees’ organizational commitment and OCB. The feelings and behaviors of employees are important assurances to achieving the goals of an organization. The results indicate that the size of a company is positively related to HPWS ($r=0.219$, $p<0.01$). The larger a company, the more focused it is on the implementation of HPWS. The conclusion in this study indicates that managers of organizations should focus on the effective construction and implementation of HPWS to create a working environment that improves employee skills and motivates them.

Second, distributional justice plays an intermediate role in the connection between HPWS and organizational commitment and OCB. This result shows that current employees are paying more attention to whether their work pay and distribution are matched. When an organization formulates and implements HRM policies and practices, it should follow the principle of distributional justice so that employees can enhance their organizational commitment through the perception of

organizational distributional justice, inspire more OCB, and enhance the company's competitiveness advantage.

C. Limitation and Future Research

This research has certain limitations, which provide a direction for further studies.

1. Limitation

First, there is a limitation with the sample selection. Due to the limitations of time and social resources, convenient sampling rather than random sampling is adopted in the selection of samples. Although the research sample covers multiple industries, the questionnaire does not give detailed industry selection criteria, and the industry classification is relatively general. In addition, although this research tries its best to select samples nationwide, most of the sampled companies are in the Beijing-Tianjin-Hebei region. Therefore, the generalization of the research conclusions is restricted.

Second, this study adopts a cross-sectional research approach. This may make it difficult to control the underlying endogenous problems, and there may be reverse causality between the main variables. For example, studies have confirmed that HPWS have a positive influence on distributional justice, but companies that focus on distributional justice may be more willing to implement HPWS. Therefore, in future research, a more in-depth discussion of the interaction between these variables can be conducted using longitudinal data or case analysis.

2. Future Research

a. Future studies should increase the intensity of the questionnaire survey, increase the sample selection to cover multiple fields and regions, and obtain more data to conduct a more in-depth analysis of the problem.

b. A future study can select or add other intermediate variables to test the differences in the research conclusions and better reveal the possible connections between the variables.

c. It is essential to further explore the hypotheses that have not been verified in this thesis so that this Chinese research can contribute to the international literature on SHRM.

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Appendix: Questionnaire

Hello,

Sincerely thank you for taking the time out of your busy schedule to complete this questionnaire.

This is a questionnaire about HPWS, OCB, organizational commitment, and organizational justice. There are no right or wrong options in this questionnaire, just fill it out according to your actual situation. This questionnaire is filled out anonymously, and the results are only used for academic research. All contents will be kept strictly confidential and will not affect you in any way. Thank you for your great support and cooperation!

If you are interested in the research results, please contact us, we will introduce and explain the results in detail, thank you for your help!

Contact: Ph.D. Program in Department of Business Administration at Chosun University in the Republic of Korea, GUO SHASHA (Lecturer, Hebei University of Engineering).

1. In the first part, the following is a description of the high-performance work system. Choose the most suitable option according to your feelings, and mark “√” in the corresponding option.

No.	Item	Totally inconsistent	Relatively inconsistent	Generally	More consistent	Completely consistent
1	Develop a clear career development path for employees.	①	②	③	④	⑤
2	The immediate superiors can clearly understand the employees' professional wishes.	①	②	③	④	⑤
3	Employees seeking promotion may consider several potential positions.	①	②	③	④	⑤
4	The organization provides much training to its employees.	①	②	③	④	⑤
5	On a regular basis, employees are required to attend training courses.	①	②	③	④	⑤
6	The company provides education and training necessary for job performance to new hires.	①	②	③	④	⑤

7	Performance is evaluated based on objective and quantifiable results.	①	②	③	④	⑤
8	They can always remain with the company if the members wish.	①	②	③	④	⑤
9	The company doesn't want to easily fire its members.	①	②	③	④	⑤
10	The company provides its employees with safe and secure jobs.	①	②	③	④	⑤
11	Managers invite members to participate in decision making tomorrow.	①	②	③	④	⑤
12	Employees have the opportunity to reflect suggestions for improvement in their work.	①	②	③	④	⑤
13	There is good communication between managers and members.	①	②	③	④	⑤
14	The company has clearly defined the job titles of its employees.	①	②	③	④	⑤

15	Job descriptions are updated and adjusted right away	①	②	③	④	⑤
16	An employee's job role is determined by the job description, not by the employee himself or herself.	①	②	③	④	⑤
17	If the company makes a profit at the end of the year, employees can participate in the dividend.	①	②	③	④	⑤

2. In the second part, the following is a description of Organizational justice. Choose the most suitable option according to your feelings, and mark “√” in the corresponding option.

NO.	Item	Totally inconsistent	Relatively inconsistent	Generally	More consistent	Completely consistent
1	I think my working hours are just.	①	②	③	④	⑤
2	I think my income level is just.	①	②	③	④	⑤

3	I think my workload is relatively just.	①	②	③	④	⑤
4	Overall, I think the rewards you get here are relatively just.	①	②	③	④	⑤
5	I think my position in my company is just.	①	②	③	④	⑤
6	Business decisions are made without prejudice by the manager.	①	②	③	④	⑤
7	Our managers listen to employees' concerns before making business decisions.	①	②	③	④	⑤
8	Our managers gather accurate and complete information before making decisions.	①	②	③	④	⑤

9	Our managers clearly explain the decisions made and provide additional information upon employee request.	①	②	③	④	⑤
10	The rectification for all jobs is applied uniformly to all employees.	①	②	③	④	⑤
11	Employees can question and appeal decisions made by managers.	①	②	③	④	⑤

3. In the third part, the following is a description of organizational citizenship behavior. Choose the most suitable option according to your feelings, and mark “√” in the corresponding option.

No.	Item	Totally inconsistent	Relatively inconsistent	Generally	More consistent	Completely consistent
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1	I work tirelessly to keep up with my current development.	①	②	③	④	⑤
2	Although it is not my job, I voluntarily do work that helps the development of the company.	①	②	③	④	⑤
3	Our organization values competition and performance.	①	②	③	④	⑤
4	Part of my job is to think and try to do things in a better way.	①	②	③	④	⑤
5	Our organization values human resource development teamwork and interest in employee engagement and agitation as important.	①	②	③	④	⑤
6	I will complete additional tasks beyond the company's requirements.	①	②	③	④	⑤

4. In the fourth part, the following is a description of the organizational commitment. Choose the most suitable option according to your feelings, and mark “√” in the corresponding option.

No.	Item	Totally inconsistent	Relatively inconsistent	Generally	More consistent	Completely consistent
1	I have a feeling of responsibility for my company.	①	②	③	④	⑤
2	I hope to work for my company for the rest of my life.	①	②	③	④	⑤
3	I want to work separately to do my job well.	①	②	③	④	⑤
4	I treat the company's work as my own.	①	②	③	④	⑤
5	I obey the work arrangement to confirm that I work for this company.	①	②	③	④	⑤
6	I am dependent on the company.	①	②	③	④	⑤

7	I have a perception of affiliation to my company.	①	②	③	④	⑤
8	I am willing to recommend my friend to work at the head office.	①	②	③	④	⑤
9	I find joy in the process of working.	①	②	③	④	⑤
10	I feel like our company is “part of the family.”	①	②	③	④	⑤

5. In the fifth part, this is your basic information, please mark "√" on the corresponding numbers one by one according to your actual situation.

Gender	①males	②females
Education level	①High school	②Junior college
	③Bachelor degree	④Master Degree
	⑤Doctoral degree	⑥Others

<p style="text-align: center;">Age</p>	<p>① Under 20</p> <p>③ 30-39</p>	<p>② 20-29</p> <p>④ Over 40</p>
<p style="text-align: center;">Position</p>	<p>① Employees</p> <p>③ Department head</p>	<p>② Team leader</p> <p>④ Executive</p>
<p style="text-align: center;">The industry your company belongs to</p>	<p>① Manufacturing</p>	<p>② Non-manufacturing</p>
<p style="text-align: center;">Company ownership</p>	<p>① Private company</p>	<p>② State-owned company</p>
<p style="text-align: center;">The number of years your company has been established</p>	<p>① Less than 3 years</p> <p>② 3 to 4 years</p> <p>③ 5 to 10 years</p> <p>④ More than 10 years</p>	
<p style="text-align: center;">Number of employees in your company</p>	<p>① Less than 50 people</p> <p>② 50-99</p> <p>③ 100-199</p> <p>④ 200-500</p> <p>⑤ More than 500 people</p>	