The Mediating Role of Psychological Ownership in the Impact of Human Resource Management Practices on Employee Loyalty

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Abstract

Higher education is entrusted with the pivotal roles of talent cultivation and scientific research. The loyalty and stability of teachers, being central to the educational ecosystem, are imperative for the flourishing of colleges and universities. The disparity in higher education resource allocation across China, particularly between the coastal regions of the east and the inland areas of the west, intensifies the difficulty Western universities face in attracting and retaining quality educators. In this study, a questionnaire was distributed among 540 faculty members at the Sichuan University of Technology, an institution situated in the resource-constrained western part of China. The analysis of the data was conducted utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM), to examine the hypotheses posited within the theoretical framework. This study sought to comprehensively understand the influence of human resource management practices in academia on enhancing teacher loyalty and diminishing their inclination to depart, mediated by the construct of psychological ownership. The findings reveal that adept human resource management practices will directly bolster teacher loyalty and their sense of psychological ownership. Furthermore, psychological ownership exerts a notable impact on teacher loyalty and serves as a critical intermediary linking human resource management practices to teacher loyalty. This study offers feasible strategies for institutions in western China to augment teacher loyalty, addressing the challenge of brain drain and fostering equitable progress in higher education across the nation.

Keywords: human resource management practices; psychological ownership; employee loyalty

Introduction

Amidst the waves of economic globalization and the rise of the knowledge economy, higher education institutions have assumed a pivotal role in bolstering national competitiveness. They are not only the nurseries for talent development but also epicenters for scientific exploration and technological innovation. Within this educational paradigm, the loyalty and stability of faculty members emerge as indispensable assets for the prosperity of universities. The escalation of worldwide academic competition has ignited fiercer battles over securing top-notch teaching talent. Consequently, higher education institutions are increasingly focusing on teacher loyalty and retention as critical levers influencing teaching quality, research prowess, and institutional longevity (King et al., 2011; Krstić et al., 2020).

The distribution of educational resources across China showcases stark disparities, with marked contrasts in economic development, resource allocation, and talent attractiveness between the affluent eastern coastal areas and the less-developed western inland. Such imbalances precipitate the flow of educational resources eastward, intensifying the struggle for Western educational institutions to build and maintain a competent faculty (Gu et al., 2018). Universities in eastern China benefit from abundant resources and added prestige, whereas those in Western China with significant hurdles in attracting and keeping skilled faculty members (Zhang et al., 2021).

The Sichuan University of Technology, a comprehensive university situated in the interior of western China, exemplifies these challenges, contending with diminished faculty loyalty and high turnover rates. These issues jeopardize the caliber of education and research and the institution's prospective growth and competitive edge. This predicament is not unique but rather symptomatic of broader challenges confronting higher education institutions in Western regions (Rhoads et al., 2014). Thus, exploring effective strategies to foster teacher loyalty is crucial for the sustained advancement of universities in Western China, thereby improving the quality of education and research outputs (Zheng & Kapoor, 2021).

Among the many factors that affect teacher loyalty, human resource management practices are widely regarded as an effective strategy. The efficacy of these practices in elevating job satisfaction, fostering a sense of belonging, and enhancing identity is well-documented. This is achieved through refined recruitment and selection processes, comprehensive training and development programs, competitive compensation packages, rigorous performance evaluation systems, empowerment of faculty members, and strategic job design. Such interventions are

instrumental in bolstering faculty loyalty, a correlation strongly supported by existing literature (Khan & Aleem, 2014; Kuvaas et al., 2017). The peculiar challenges faced by higher education institutions in Western China, characterized by regional development level and disparate distribution of educational resources, necessitate the customization of human resource management practices to local conditions as a means to cultivate and sustain teacher loyalty.

Furthermore, the concept of psychological ownership, which encapsulates an individual's psychological attachment to their work environment, has attracted increasing attention within the domain of organizational behavior. As a pivotal mediator, psychological ownership connects human resource management practices to consequential employee outcomes, such as loyalty(Avey et al., 2009; Pierce et al., 2001). Despite its recognized importance, the mechanism through which psychological ownership impacts the behaviors and attitudes of faculty members, especially in the context of China's higher education landscape, warrants further exploration. Future inquiries should aim to unravel the intricate ways in which psychological ownership, facilitated by human resource management practices, shapes the attitudes and behaviors of educators, considering the cultural and systemic specificities of the local educational milieu.

This study, centered on the Sichuan University of Technology, scrutinizes the capacity of human resource management practices to fortify teacher loyalty and mitigate the inclination towards turnover by fostering psychological ownership among faculty members. The study extends beyond the immediate effects of human resource management practices to probe the intermediary role of psychological ownership, aiming to craft actionable strategies for Western universities grappling with faculty attrition issues. By doing so, it endeavors to offer both theoretical insights and practical guidance to ameliorate the skewed distribution of higher education resources across China and directly address the challenge of teacher turnover prevalent in universities situated in the Western regions (Avey et al., 2009; Mayhew et al., 2007). This study underscores the significance of psychological ownership in mediating the relationship between human resource management practices and teacher loyalty, thereby contributing to the broader discourse on enhancing institutional resilience against the backdrop of global talent mobility.

Research Objectives

This study is designed to make an in-depth understanding of how human resource management practices affect teacher loyalty in Chinese universities directly or indirectly using analyzing the mediating role of psychological ownership. It aims to address the problem of the

brain drain in Sichuan University of Science and Technology and other universities in similar areas. Specifically, this study focuses on the following four aspects:

1. Explore the influence of human resource management practices on employee loyalty.

2. Explore the influence of human resource management practices on employees' psychological ownership.

3. Explore the influence of psychological ownership on employee loyalty.

4. Explore the mediating role of psychological ownership between human resource management practices and employee loyalty.

Literature Review

Human Resource Management Practices (HRP)

Human Resource Management Practices (HRP) represent the array of strategies and procedures that organizations deploy to effectively attract, cultivate, motivate, and retain their human capital. These practices span the entirety of an employee's career trajectory, from recruitment to retirement, aiming to foster a conducive work environment that bolsters employee satisfaction and loyalty, thereby enhancing organizational performance (Armstrong & Taylor, 2020). Scholars such as Deo (2014); Pham et al. (2020); Tej et al. (2021); Venegas et al. (2016) claim that key components of human resource management practices are Recruitment and Selection (RS), Training and Development (TD), Compensation and Benefits (CB), Performance Appraisal (PA), Employee Empowerment (EE), and Job Design (JD).

Employee Loyalty (LYT)

Employee loyalty (LYT), often conceptualized as the aggregation of employees' affective, continuance, and normative commitment to their organization (Meyer & Allen, 1991), serves as a pivotal indicator of an employee's dedication and fidelity toward the organization. This loyalty influences job performance, intention, and the level of endorsement for organizational objectives. Theoretical underpinnings of employee loyalty primarily draw from two frameworks: Organizational Commitment Theory and Psychological Ownership Theory. Organizational Commitment Theory (Meyer & Allen, 1991) delineates three facets of employee loyalty to the organization: Affective Loyalty (AL), representing an employee's emotional connection and identification with the organization; Continuous Loyalty (CL), rooted in the employee's evaluation of the costs associated with departing the organization; and Normative Loyalty (NL), which reflects the employee's adherence to organizational or societal norms.

The significance of human resource management practices in bolstering employee loyalty is extensively acknowledged within the scholarly domain. Breaugh (2013) underscored the pivotal role of recruitment and selection processes in attracting and retaining educators. Cohen and Elaine (2017) elucidated how training and development initiatives contribute to augmenting career satisfaction among teachers. Aguinis et al. (2013); Gerhart and Fang (2014) delved into the impacts of performance management and reward systems on teachers' performance and loyalty, respectively. Furthermore, Kossek et al. (2011) investigated the beneficial effects of job design on teacher loyalty. Building upon those insights, this study articulates the following hypothesis in the context of Chinese higher education institutions:

H1: Human resource management practices have a positive influence on employee loyalty.

Psychological Ownership (PSY)

The notion of psychological ownership was initially introduced by Pierce et al. (2001), who posited that psychological ownership constitutes a state of mind where an individual perceives something as intimately his or her own ("mine"), encapsulating four fundamental dimensions: control over the objectives, intimate knowledge of it, investment in it, and one's identity. Subsequent research by Avey et al. (2009) and Pierce et al. (2001) suggests that assessments of psychological ownership often hinge on individual factors such as Self–Efficacy (SE), Self–Identity (SI), Sense of Belonging (SB), and Sense of Responsibility (SR). Psychological ownership theory articulates that an individual's perceived proprietorship over their work or workplace emanates from their control, comprehension, personal engagement, and identification with the role (Pierce et al., 2003). Breaugh (2013) elucidates that transparency and equity in recruitment processes significantly influence newcomers' sensation of organizational affiliation, a critical aspect of psychological ownership. Aguinis et al. (2013) delineate how performance feedback can amplify an employee's sense of autonomy over their tasks, thereby augmenting psychological ownership. Cohen and Elaine (2017) highlights the role of training and career development in bolstering employees' professional self–regard and self–efficacy, essential elements in fostering psychological ownership. Mayhew et al. (2007) discovered that human resource management practices offering professional growth and acknowledging teachers' accomplishments significantly enhance their sense of community and identity within academia, thus promoting their psychological ownership. Based on these insights, the study posits the following hypothesis:

H2: Human resource management practices have a positive influence on employees' psychological ownership.

The theory of psychological ownership posits that when an individual perceives heightened control, belonging, and commitment towards the work environment or tasks, he will generate more sense of psychological ownership (Pierce et al., 2001) which not only fosters employees' identification with their work's value but also strengthens their allegiance to the organization (Van Dyne & Pierce, 2004). Pierce et al. (2003) emphasize that psychological ownership is crucial for bolstering employees' dedication and loyalty to their organization. Enhancing this sense of ownership can substantially elevate job satisfaction and organizational commitment among employees, thereby nurturing organizational loyalty. In the context of higher education, the psychological ownership felt by faculty members plays a vital role in deepening their loyalty towards the institution. The extent to which faculty members feel a sense of belonging to the institution, exert control over teaching and research outcomes, and align their identity with the institution's ethos can markedly influence their institutional loyalty (Olckers & Enslin, 2016). Based on these considerations, this study proposes the following hypothesis:

H3: Psychological ownership has a positive influence on employee loyalty.

Drawing on the frameworks of psychological ownership theory and social exchange theory, this study explores the dynamics between human resource management practices and employee loyalty. Psychological ownership theory posits that an individual's sense of psychological ownership over his work or organization will bolster his organizational loyalty (Pierce et al., 2001). Complementarily, social exchange theory elucidates the enhancement of employees' commitment and loyalty towards an organization via perceived organizational support, as manifested in human resource management practices (Blau, 2017). Pierce et al. (2003) suggest that psychological ownership serves as a bridge linking organizational behavior with employees' attitudes, notably including loyalty towards their organization. Research conducted by Avey et al. (2009) indicates that psychological ownership not only directly impacts employees' job satisfaction and organizational commitment but also acts as a critical mediating variable in the relationship between human resource management practices and employee behaviors and attitudes. It is acknowledged human resource management practice acts as a significant determinant of employees' psychological ownership, which, in turn, indirectly influences employee loyalty (Mayhew et al., 2007). In the educational sector, when colleges and universities enhance faculty members' sense of control and belonging through professional development opportunities, equitable performance appraisals, and rewarding systems, it is anticipated that teachers' psychological ownership and, consequently, their loyalty to their organizations will increase (Brown

et al., 2005). A positive work environment and teacher engagement are pivotal in improving teachers' job well–being and commitment to the institutions. Allowing teachers to engage in decision–making processes will augment their psychological ownership to foster greater allegiance to the institutions (Bakker & Demerouti, 2017). Based on these insights, this study puts forward the following hypothesis:

H4: Human resource management practices have a positive influence on employee loyalty through the mediating role of psychological ownership.

Conceptual Framework

This study employed purely quantitative methods, adopting a cross–sectional survey design grounded in the post–positivist worldview hypothesis (Creswell, 2012). It specifically focused on examining the loyalty, psychological ownership, and human resource management practices of teachers at Sichuan University of Technology. The Research Conceptual Framework is Detailed as Shown in Figure 1.

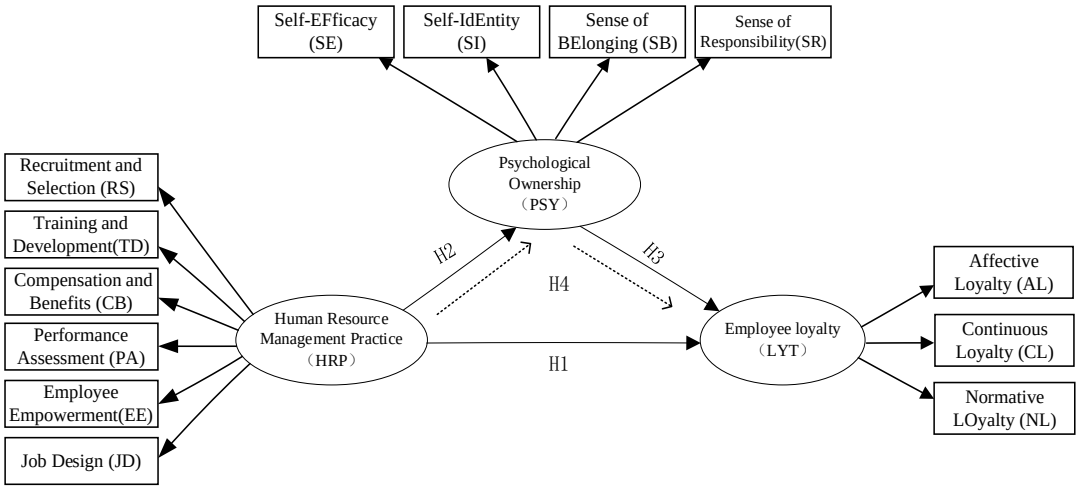

Figure 1 Research Framework

Research Method and Data

Analysis Program

Following Henseler (2018) recommendation and considering the predictive explanatory nature of the study, Partial Least Squares Structural Equation Modeling (PLS–SEM) was selected as the analytical approach. This method emphasizes the minimization of prediction error, the predictive correlation of effects, and the R^2 values of endogenous variables for statistical inference

and assessing the effect size of path coefficients. The merits of employing this methodology include the ability to test the theoretical framework from a predictive standpoint, enhance complexity through the exploration of theoretical extensions to established theories, incorporate estimated complexes in the model, and facilitate mediation analysis (Hair et al., 2019). The evaluation of all reflective measurement models, alternatively known as measurement or structural models, was conducted using SmartPLS 4 software (Hair et al., 2021).

Instrumentation

This study encompassed three variables, and the questionnaire comprised 58 items, all of which referred to maturity scales in the literature. These items were translated and adapted to align with the job characteristics of teachers in Chinese universities. Respondents were instructed to report their average feelings at work using a 5-point Likert scale that ranged from 1 (very mild) to 5 (very strong). For the dimension of employee loyalty, the study utilized the maturity scales of Meyer and Allen (1991) and Homburg and Stock (2004) to craft the questionnaire, which included 18 items measuring three facets: affective commitment, continuance commitment, and normative commitment. The assessment of human resource management practices was informed by the scales of Collins and Smith (2006); Sun et al. (2007); Takeuchi et al. (2007), featuring 24 items that evaluated aspects of human resource management, namely recruitment and selection, training and development, compensation and benefits, performance evaluation, employee empowerment, and job design. The psychological ownership was measured through a 16-item scale adapted from the works of Avey et al. (2009); Brown et al. (2005); Pierce et al. (2009). This scale assessed the psychological ownership of teachers at Sichuan University of Technology in terms of self-efficacy, self-identity, sense of belonging, and responsibility. Initially, the questionnaire underwent assessment through Input Output Control (IOC) and was revised based on feedback from three experts. Subsequently, a pilot test was conducted with 30 teachers from Sichuan University of Technology participating in the pretesting phase. The questionnaire was fine-tuned based on the pilot test results to formulate the final version of this study.

Data collection

Respondents in this study were faculty members at Sichuan University of Technology who receive compensation, as only those receiving compensation possess the capacity to provide insights based on their perceived value. This study utilized an anonymous survey, disseminating and collecting questionnaires online from January 2024 to February 2024, with participation voluntarily. A total of 800 questionnaires were distributed, inviting respondents to rate and

respond based on their actual feelings. Of these, 597 questionnaires were returned. Following collection, the responses underwent coding and analysis to identify and remove homogeneity bias by excluding invalid responses sharing identical IP addresses or IDs. Ultimately, 540 valid questionnaires were compiled, forming the final sample for the study. The basic demographic data is presented in Table 1.

Table 1 The demographic profile of participants.

Characteristics	Category	Frequency	Percentage
Gender	Male	237	43.9
	Female	303	56.1
Age	Below 30 years old	69	12.8
	Between 31–35 years old	84	15.6
	Between 36–40 years old	100	18.5
	Between 41–45 years old	122	22.6
	Between 46–50 years old	72	13.3
	Above 51 years old	93	17.2
Job title	Senior Title	121	22.4
	Intermediate Title	208	38.5
	Junior Title	82	15.2
	No Title	129	23.9
Work experience	Less than 5 year	126	23.3
	Between 5–10 years	118	21.9
	Between 11–15 years	57	10.6
	Between 16–20 years	93	17.2
	Between 21–25 years	67	12.4
	More than 26 years	79	14.6

The demographic details of the respondents are summarized in Table 1. In terms of gender distribution, there were 303 females (56.7%) and 237 males (43.9%). In terms of age demographics, there are 122 respondents at the age of 41–45, accounting for 22.6%, followed by 100 (18.2%) at the age of 36–40, 93 (17.2%) aged 51 years and above, 84 (15.6%) in the 31–35 years category, 72 (13.3%) within the 46–50 years range, and 69 (12.8%) under 30 years of age. In terms of job titles, a predominant number of respondents held an intermediate title, numbering 208 (37.2%), succeeded by 129 (23.9%) with no title, 121 (22.4%) with a senior title,

and 82 (15.2%) with a junior title. As for work experience, the largest group comprised individuals with less than 5 years of experience, totaling 126 (23.3%), followed by 118 (21.9%) with 5–10 years of experience, 93 (17.2%) with 16–20 years of experience, 79 (14.6%) with more than 26 years of experience, 67 (12.5%) with 21–25 years of experience, and 57 (10.6%) with 11–15 years of experience.

Assessment of the Measurement Model

(1). Indicator loadings and internal consistency reliability

The results of the analysis conducted using PLS–SEM in this study were utilized to examine the indicators, as detailed in Table 2. According to J. F. Hair et al. (2011), the loadings of the indicators should ideally exceed 0.7. In this study, the factor loadings ranged from 0.814 to 0.924, all above the 0.7 benchmark. It is recommended that internal consistency reliability be assessed through Cronbach's alpha (α) and composite reliability (CR). Hair Jr et al. (2010) suggest that Cronbach's alpha coefficient must exceed 0.7 to indicate good reliability for a variable. Furthermore, the CR should be greater than 0.708. The values of Cronbach's alpha in this study varied between 0.892 and 0.916, and the CR values were between 0.932 and 0.941, both exceeding 0.7. Table 2 provides the details of these measurement values.

Table 2 Validity and reliability of measurement model

Construct	Item	Loadings	VIF	Cronbach's Alpha	CR	AVE
HRP	RS	0.838	2.488	0.914	0.933	0.699
	TD	0.851	2.634			
	CB	0.861	2.912			
	PA	0.836	2.545			
	EE	0.815	2.238			
	JD	0.814	2.011			
LYT	AL	0.904	2.405	0.892	0.932	0.821
	CL	0.891	2.671			
	NL	0.924	3.014			
PSY	SE	0.862	2.551	0.916	0.941	0.799
	SI	0.920	3.657			
	SB	0.893	2.793			
	SR	0.898	3.009			

(2). Convergent validity

Convergent validity aims to verify the strong association between indicators that measure the same construct. The Average Variance Extracted (AVE) signifies the degree to which the latent factors account for the variance in the observed variables, serving as a crucial measure of convergent validity. Convergent validity is confirmed when the AVE value is 0.500 or higher (J. F. Hair et al., 2012; Hulland, 1999). The data presented in Table 2 show that the AVE values in this study range from 0.643 to 0.708, surpassing the 0.500 threshold, which enables further analysis.

(3). Discriminant validity

Discriminant validity measures the extent to which a construct differs from others. According to the Fornell–Larcker criterion, the square root of the Average Variance Extracted (AVE) for each construct should exceed the construct's shared variance with any other construct in the model (Hair et al., 2012; Vinzi et al., 2010). The results of the study, as presented in Table 3, indicate that for every construct, the square root of the AVE is indeed greater than its shared variances with others, confirming discriminant validity.

Table 3 Fornell–Larcker Criterion

Construct	HRP	LYT	PSY
HRP	0.836		
LYT	0.619	0.906	
PSY	0.716	0.724	0.894

Note: Squared correlations; AVE in the diagonal.

Discriminant validity can be assessed by examining cross–loadings. Discriminant validity is achieved when a construct's loading value is higher than all its cross–loading values on other constructs (Chin, 1998). Table 4 demonstrates that the indicator values of the outer loading for each construct (highlighted in bold) exceed the values of all their cross–loadings on other constructs, thus confirming discriminant validity.

Table 4 Cross-Loading Analysis

Indicator Name	HRP	LYT	PSY
Recruitment and Selection (RS)	0.838	0.510	0.579
Training and Development (TD)	0.851	0.521	0.594
Compensation and Benefits (CB)	0.861	0.543	0.551
Performance Assessment (PA)	0.836	0.456	0.558
Employee Empowerment (EE)	0.815	0.499	0.524
Job Design (JD)	0.814	0.559	0.744
Affective Loyalty (AL)	0.573	0.904	0.714
Continuance Loyalty (CL)	0.471	0.891	0.560
Normative Loyalty (NL)	0.622	0.924	0.678
Sense of Belonging (SB)	0.687	0.724	0.893
Self-Efficacy (SE)	0.577	0.565	0.862
Self-Identity (SI)	0.662	0.637	0.920
Sense of Responsibility (SR)	0.623	0.649	0.898

Henseler et al. (2015) introduced the Heterotrait-Monotrait ratio (HTMT) as a method to assess discriminant validity, stipulating that HTMT values must be below 0.90 to confirm discriminant validity. As shown in Table 5, the HTMT values in this study ranged from 0.675 to 0.789, all below the 0.90 threshold. This indicates that discriminant validity has been successfully established between the constructs measured by reflection.

Table 5 Heterotrait-Monotrait Ratio of Correlations (HTMT)

Construct	HRP	LYT	PSY
HRP			
LYT	0.675		
PSY	0.770	0.789	

Structural Modelling Evaluation

(1). Collinearity Issue

In the model validation process, multicollinearity is typically assessed using the Variance Inflation Factor (VIF). An instrument is considered suitable for further analysis if its VIF value is less than 3 for the inner model and less than 5 for the outer model (Hair et al., 2011). Table 2 shows that the VIF values for the outer model range from 2.011 to 3.657, all below the threshold of 5.

Table 6 reveals that VIF values for the inner model range from 1.000 to 2.051, all below the threshold of 3. Consequently, in this study, covariance has no negative effect on the path coefficients within the structural model.

Table 6 Inner model collinearity statistics (VIF)

Construct	HRP	LYT	PSY
HRP		2.051	1.000
LYT			
PSY		2.051	

(2). Structural Model Relationship

This study employs the bootstrapping algorithm in PLS for calculating path coefficients (β) and t-statistics, testing the relationships among independent variables, mediating variables, and dependent variables. According to Hair et al. (2011), to confirm a successful mediating effect, both the direct and indirect effects involving the mediator must be statistically significant. Furthermore, 5000 bootstrap samples were utilized to ascertain the significance levels of the path coefficients, as illustrated in Figure 2. The results, presented in Table 7, reveal that HRP has a significant positive effect on LYT (β=0.206, t=4.519, p<0.001), thus supporting hypothesis H1. Similarly, HRP significantly positively affects PSY (β=0.716, t=36.733, p<0.001), supporting hypothesis H2. PSY significantly positively influences LYT (β=0.577, t=13.586, p<0.001), in support of hypothesis H3. The pathway from HRP through PSY to LYT (β=0.413, t=12.856, p<0.001) demonstrates that HRP significantly impacts LYT via PSY, affirming the substantial mediating effect of PSY.

Table 7 Path Model Effects and Hypotheses Results

Hypotheses	Relationship	β	t-value	p-value	Result
H1	HRP -> LYT	0.206	4.519	0.000	Supported
H2	HRP -> PSY	0.716	36.733	0.000	Supported
H3	PSY -> LYT	0.577	13.586	0.000	Supported
H4	HRP -> PSY -> LYT	0.413	12.856	0.000	Supported

Notes: bootstrapping (n = 5000).

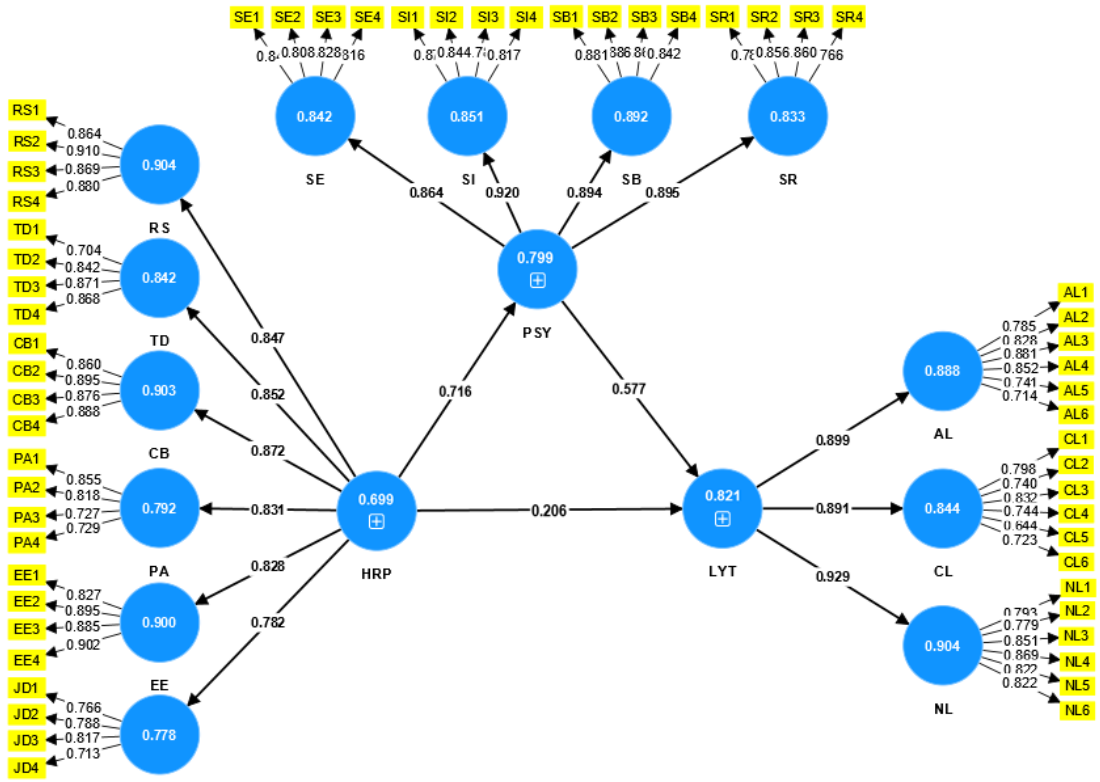

Figure 2 Final PLS model with path coefficients, loadings, and Cronbach's alpha

(3). Coefficient of determination (R^2)

The coefficient of determination (R^2) is commonly used to quantify the strength and degree of influence of the independent variable on the dependent variable in regression analysis. Values range from 0 to 1, with 0.75 considered substantial, 0.50 moderate, and 0.25 weak (Chin, 1998). The R^2 value for Employee Loyalty (LYT) is 0.544, indicating a moderate level of explanation, and for Psychological Ownership (PSY), it is 0.511, also indicating a moderate level. Detailed R^2 results are reported in Table 8.

Table 8 Explanatory Power

Construct	R^2	R^2 Adjusted	Consideration
Employee Loyalty (LYT)	0.545	0.544	Moderate
Psychological Ownership (PSY)	0.512	0.511	Moderate

(4). Effect size (f^2)

Effect size (f^2) is measured by observing changes in the coefficient of determination (R^2) value to determine the impact of exogenous latent variables on endogenous variables, assessing

whether they have a substantive effect (Ghozali, 2008). An f^2 value of 0.02 indicates a small effect, 0.15 signifies a medium effect, and 0.35 represents a large effect. The path from HRP to PSY achieved the largest effect (1.051), indicating a significant influence. The path from PSY to LYT yielded a large effect (0.357), and the path from HRP to LYT demonstrated a medium effect (0.046). Detailed f^2 results are reported in Table 9.

Table 9 f^2 result

Path	f^2	Effect size
HRP -> LYT	0.046	Moderate
HRP -> PSY	1.051	High
PSY -> LYT	0.357	Moderate

(5). Predictive relevance (Q^2)

The Stone–Geisser test (Q^2) measures the model's predictive relevance by assessing how well the observed values are reproduced by the model and its parameters. A Q^2 value greater than 0 indicates that the model has predictive relevance; conversely, a value less than 0 signifies a lack of predictive relevance (Ghozali, 2008). The Q^2 values were derived using the blindfolding procedure in PLS–SEM. According to Ghozali (2016), predictive relevance values are categorized as follows: 0.02 indicates a small predictive relevance, 0.15 a medium predictive relevance, and 0.35 a large predictive relevance, as suggested by J. Cohen (1988).. The blindfolding results reveal that Psychological Ownership (PSY) with Q^2 = 0.647, Employee Loyalty (LYT) with Q^2 = 0.605, and Human Resource Management Practice (HRP) with Q^2 = 0.573 all demonstrate large predictive relevance. Detailed Q^2 results for this study are presented in Table 10.

Table 10 Predictive relevance.

Construct	Q^2	Predictive Relevance
Human Resource Management Practice (HRP)	0.573	Large Predictive
Employee Loyalty (LYT)	0.605	Large Predictive
Psychological Ownership (PSY)	0.647	Large Predictive

Research Results

The purpose of this study is to examine the impact of human resource management practices (HRP) on teachers' loyalty (LYT) and the mediating role of psychological ownership (PSY) in this process within a Chinese university setting. The study utilizes SEM–PLS analysis and proposes four hypotheses, identifying Human Resource Management Practice (HRP) as the independent variable, Employee Loyalty (LYT) as the dependent variable, and Psychological Ownership (PSY) as the mediating variable. Thirteen observed variables were identified for the three constructs, and a survey questionnaire comprising 58 items was developed to align with the study's objectives. A total of 540 valid questionnaires were collected through an online platform. Structural equation modeling analysis conducted using SmartPLS 4 confirmed the hypotheses, with the results presented in Table 7.

The results of research objective 1 indicate that human resource management practices have a positive influence on employee loyalty (β=0.206, t–value=4.519, p–value=0.000), suggesting that enhancing human resource management practices effectively increases teachers' loyalty. This finding aligns with the studies by Aguinis et al. (2013) and Gerhart and Fang (2014), which underscored the importance of optimizing human resource management practices to boost teachers' loyalty.

The results of research objective 2 indicate that human resource management practices have a positive influence on employees' psychological ownership (β=0.716, t–value=36.733, p–value=0.000). This indicates that human resource management strategies and procedures significantly enhance teachers' sense of psychological ownership of the school. The findings align with those of Breaugh (2013) and Pierce et al. (2003), which suggest that improving human resource management practices can effectively enhance teachers' sense of identification and belonging to the school.

The results of research objective 3 indicate that psychological ownership has a positive influence on employee loyalty (β=0.577, t–value=13.586, p–value=0.000). This is consistent with the conclusions of Olckers and Enslin (2016) and Van Dyne and Pierce (2004), highlighting the crucial role of psychological ownership in fostering teachers' loyalty to the school.

The results of research objective 4 indicate that psychological ownership has a mediating role (β=0.413, t–value=12.856, p–value=0.000). Human resource management practices have a positive influence on employee loyalty through psychological ownership. This supports the findings

of Avey et al. (2009) and Blau (2017), underlining the significance of psychological ownership as a mediator between human resource management practices and teacher loyalty.

In summary, the findings demonstrated that robust human resource management practices, including effective recruitment, incentives, and development opportunities, significantly bolster teachers' psychological ownership. It is evident that human resource management practices positively impact teacher loyalty by enhancing psychological ownership, thereby underscoring the pivotal role of psychological ownership in boosting teachers' loyalty. Furthermore, the results shed light on the mediating role of psychological ownership in the relationship between human resource management practices and employee loyalty.

Knowledge from research

For the first time, this study explores the role of psychological ownership as a mediating variable in the relationship between human resource management practices and teacher loyalty within the context of a university in western China. The application of this model enriches the theoretical frameworks in the fields of human resource management and organizational behavior, while also offering new insights into the mechanisms that influence teacher loyalty.

Secondly, this paper integrates human resource management practices with theories of psychological ownership to examine their impact on teacher loyalty, reflecting an interdisciplinary research approach. This interdisciplinary perspective introduces novel ideas and methods for addressing issues in educational management.

By focusing on the unique context of colleges and universities in western China, this paper highlights the challenges of uneven resource distribution and brain drain. Through the case study of Sichuan University of Technology, the author provides empirical support and specific strategies for enhancing faculty loyalty in similar institutions, thereby addressing a gap in the existing literature on geographical research.

To sum up, the innovation of this paper lies in the construction of its theoretical model, the application of an interdisciplinary methodology, and the detailed examination of factors influencing teacher loyalty in universities in Western China. The findings offer both a theoretical foundation and practical guidance for university administration and open new avenues for future research.

Conclusions

Through a series of hypothesis tests, this study confirms that human resource management practices not only have a direct and positive effect on the loyalty of university teachers but also indirectly enhance loyalty by increasing teachers' sense of psychological ownership. The study's findings suggest that:

1. Human resource management practices positively impact employee loyalty, indicating that effective human resource management strategies can enhance employees' loyalty to the organization.

2. Human resource management practices positively affect psychological ownership, suggesting that effective human resource management strategies can enhance employees' sense of belonging and control over their work. This can lead to increased work engagement and organizational commitment.

3. Psychological ownership has a positive impact on employee loyalty, demonstrating that when employees have a greater sense of control and ownership over their work, their loyalty to the organization increases accordingly.

4. Human resource management practices positively impact employee loyalty through psychological ownership, meaning that when employees feel valued, they are more likely to remain loyal to the organization. This further confirms that increasing employees' sense of ownership is an effective way to enhance their organizational loyalty.

These findings highlight the importance of implementing an integrated human resource management strategy in higher education institutions, particularly to increase psychological ownership and loyalty among faculty members. Therefore, higher education institutions should focus on optimizing their human resource management practices, including recruitment, training, performance evaluation, and reward mechanisms, to promote faculty loyalty and stability. This, in turn, can enhance the quality of teaching and research capacity within the institution.

Suggestions

1. Suggestions for Usage

(1). Drawing on the case of Sichuan University of Technology, this study offers university administrators specific recommendations for enhancing human resource management practices. These recommendations aim to help universities refine their approaches to recruitment and

selection, training and development, compensation and benefits, and performance evaluation. Implementing these strategies can improve teacher loyalty and mitigate brain drain.

(2). This research is regionally specific and offers practical value. It sheds light on new strategies for understanding and addressing the uneven distribution of resources in Chinese higher education. The findings provide valuable insights for education policymakers and university administrators on more effective ways to manage and motivate teachers, especially in resource–constrained environments.

(3). From the perspective of Chinese higher education institutions, this study conducts an in–depth investigation into the factors influencing university teacher loyalty. It integrates theories of psychological ownership and human resource management to explore their combined effect on teacher loyalty. This comprehensive approach offers new theoretical insights into the interplay between psychological ownership and human resource management theories.

2. Suggestions for Further Research

(1). This study's limitations include its data sources and sampling method. Since the data were exclusively obtained from the Sichuan University of Technology, they may not fully represent situations across different regions or industries. Future research should aim to broaden the sample to encompass employees from diverse geographical areas, industries, and cultural backgrounds. This expansion would enhance the universality and applicability of the findings.

(2). The research utilized a cross–sectional study design which might not adequately capture causal relationships, given the dynamic nature of employee loyalty and its influencing factors. Future studies could benefit from adopting longitudinal research designs to gain deeper insights into the causal dynamics between human resource management practices, psychological ownership, and employee loyalty.

(3). Although this study focused on psychological ownership as a mediating variable, it potentially overlooked other relevant mediating or moderating variables. Future research is encouraged to investigate the effects of additional variables on the study model to further elaborate and refine the theoretical framework.

(4). In the era of big data and artificial intelligence, employing emerging data analysis techniques in research on human resource management practices could uncover previously hidden patterns and insights. Future studies should consider leveraging these advanced methodologies to explore new dimensions of the relationship between human resource management practices and employee outcomes.

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