



# Psychological contract breach and employee engagement: moderation of role of a high-performance work system

Irfan Hyder Soomro<sup>1</sup> · Zahida Abro<sup>2</sup> · Muhammad Shakil Ahmad<sup>3,4</sup> 

Accepted: 18 November 2023 / Published online: 19 December 2023  
© The Author(s), under exclusive licence to Springer Nature B.V. 2023

## Abstract

This study examines the relationship between psychological contract breach, high-performance work systems, and employee engagement in public sector banks of Larkana, Pakistan. The study proposes that high-performance work systems can moderate the negative impact of psychological contract breach on employee engagement. The study draws upon social exchange theory and self-determination theory to frame the research questions and employs a quantitative methodology to test the hypotheses. The sample consists of 250 employees from public sector banks in Larkana, Pakistan has been taken to analyze the data. To examine the relationship between the latent variables, SPSS and smart PLS modeling have been used. The study finds that psychological contract breach has a significant negative impact on both employee engagement and high-performance work systems, while high-performance work system has a significant positive relationship with employee engagement. Overall, the study concludes that HPWS can lessen the negative effect of psychological contract breach and create a productive workplace that enhances employee engagement. The results support the hypotheses and have theoretical, practical, and methodological implications for HRM practices in public sector banks. The study recommends that organizations prioritize maintaining psychological contracts with employees and implementing HPWS to enhance engagement. Future studies should focus on addressing the study's limitations, such as its cross-sectional design and dependence on self-report measures.

**Keywords** Psychological contract breach · Employee engagement · High-performance work system

---

✉ Muhammad Shakil Ahmad  
onlyshakil@gmail.com

<sup>1</sup> SZABIST Campus Larkana, Larkana, Sindh, Pakistan

<sup>2</sup> Dean College of Administrative and Financial Science, Gulf University, Sanad, Bahrain

<sup>3</sup> Teesside University International Business School, Middlesborough, UK

<sup>4</sup> Faculty of Business, Sohar University, Al-Batinah, 311, Sohar, Oman

## 1 Introduction

Extensive research on the relationship between psychological contract breach with employee engagement have been carried out in the literature, while High-Performance Work System (HPWS) has been identified as a major moderator between the two constructs. According to the latest study, HPWS may significantly moderate the relationship between psychological contract breach and employee engagement in the banking sector, (Goh et al. 2020; Kim et al. 2020a, b). For instance, Goh et al. (2020) discovered that the negative impact of psychological contract breach on employee engagement was significantly reduced with HPWS among Singapore public sector bank employees. Also, Kim et al. (2020a, b) discovered that HPWS had a favorable impact on employee engagement among South Korean public sector bank employees even when psychological contract breach was significant.

HPWS has been investigated in a variety of industries, including healthcare, hospitality, and manufacturing, for its moderating effect on the relationship between psychological contract breach and employee engagement (Eisenbeiss et al. 2008). However, there has been limited research on the moderating role of HPWS in the context of public sector banks (Goh et al. 2020; Kim et al. 2020a, b). Previous studies have mostly focused on developed economies in Asia and North America, hence there is a need for research in this field in the context of public sector banks in Larkana.

In Pakistan, the public banking sector is important to the economy and employs a large number of people. There has been little research into the relationship between psychological contract breach, employee engagement, and HPWS in public sector banks of Pakistan. Therefore, this study provides useful insights on HPWS's moderating role in the relationship between psychological contract breach and employee engagement.

Research, in the context of public sector banks in Larkana, has found that HPWS can play a crucial part in improving employee engagement within a banking system. For instance, a research study by Ahmed et al. (2019a, b) found that HPWS practices such as employee involvement, communication, and training and development were positively associated with employee engagement in public sector banks in Pakistan. Similarly, a study by Khan et al. (2020) found that HPWS practices such as performance appraisal and reward systems were positively associated with employee engagement in public sector banks in Pakistan. These studies demonstrate the significance of HPWS in minimizing the negative effects of psychological contract breach on employee engagement in public sector banks of Pakistan.

Employees' individual promises and obligations stem from a reciprocal relationship between them and the company is expressed in psychological contracts (Rousseau 1989, 2001). At all times, the employee and the employer are bound by a formal contract, but a psychological contract supersedes this written contract. According to a concept from psychological contract, employees have a range of aspirations for their organization, and organizations have a lot of hopes for them (Roehling 1997). The psychological contract assesses the reciprocal relationship between the employees' and employer's rights, duties, responsibilities, and obligations (Rousseau 1989). The psychological contract, according to Smithson and Lewis (2003), is a philosophical development of the concept of social exchange theory. When people have a social relationship, according to the social exchange theory, they exchange economic (e.g. money) and social resources (e.g. esteem and respect) (Conway and Briner 2005). According

to Morrison and Robinson (1997) the psychological contract breach is defined as “the failure of the employer or organizations to meet their commitments to the employees”.

To reach goals and objectives, organizations need highly engaged employees. As a result, businesses must develop working environments that encourage people to give their full potential in order to achieve maximum efficiency and to come up with new ideas without fear of criticism (Bakker and Schaufeli 2008). Further, Schaufeli and Bakker (2014) have pointed out that work engagement is the state of mind that consists of positivism, optimism, gratifying, and accomplishing the work-related way of thinking. It's a multi-faceted idea that includes aspects like vitality, devotion, and absorption. Research shows that work engagement is linked to total well-being, which includes mental health, physical fitness, positive work habits, attitudes, and motivation. Additionally, work engagement is linked to high performance at the workplace (Bakker 2008).

Given these findings, it is essential to investigate the moderating impact of HPWS in the public sector banks in Larkana, on the relationship between psychological contract breach and employee engagement. This research will add to the present literature by exploring this relationship in a new and under-researched context, and by providing insights into the role of HPWS in lessening the negative impact of psychological contract breach on employee engagement in public sector banks. The outcomes of this research study will have significant suggestions for the management of public sector banks in Larkana, as well as for the development of effective HR practices and policies aimed at promoting employee engagement and well-being.

The psychological contract breach in relation with employee engagement has been demonstrated to be moderately impacted by high-performance work systems in previous research studies (Goh et al. 2020; Kim et al. 2020a, b). However, because these studies were carried out in different nations, they might not necessarily apply for the situation of public sector banks in Larkana, Pakistan. The relationship between psychological contract breach, employee engagement, and high-performance work systems must thus be examined in this context to ascertain the extent to which the presence of high-performance work systems influences this relationship.

Lack of knowledge in public sector banks in Larkana, Pakistan, emphasizes the need for an empirical investigation that may look at the relationship between psychological contract breach, and employee engagement, with the moderating role of HPWS in this setting. This study would offer insightful information about the role of HPWS in reducing the negative effects of psychological contract breach on employee engagement in public sector banks in Larkana, Pakistan, and would provide information on the development of HR policies and practices intended to enhance employee engagement and organizational performance.

In Pakistan, however, the high-performance work system is generally low in relation to public sector units like banks where extensive training, selective staffing, internal mobility, incentive rewards, result-oriented appraisals, employee participation, and employment security requires special attention to engage the workforce. Hence, the study aims to examine the moderating role of HPWS in the relationship between psychological contract breach and employee engagement. In this industry, there is no psychological contract between employee and employer, which has an impact on employee engagement at work. The main objective of this study is to determine to what extent in public sector banks in Larkana, Pakistan the HPWS moderates the negative relationship between psychological contract breach and employee engagement.

## 2 Literature review

The psychological contract concept has a rich history in HRM and organizational behavior literature, where most research is focused on employee–organizational relationships (Karagonlar et al. 2016; Kutaula et al. 2020). A recent study by Turner and Lee (2019) defined psychological contract breach as "a violation of the expectations that employees have about the obligations, duties, and promises made by the employer." This definition highlights the part of employees' perceptions and expectations in the psychological contract and the impact of perceived breaches on their attitudes and behaviors in the workplace.

### 2.1 Psychological contract breach

The psychological contract concept is based on an underlying mutual exchange relationship (between two parties), which could include commitments and obligations. Another aspect of the psychological contract is that it highlighted the significance and desires of both persons involved, rather than favoring one. It can also be represented in terms of reciprocal benefits, such as honoring promises to both sides. Employees, for example, may show support for their coworkers and if they feel mutual agreements made between employees and their managers have been kept, they must work hard.

### 2.2 Employee engagement

In several studies Sorenson (2013), Ahmed et al. (2017), Ahmed et al. (2019) have shown the significance of engagement at the workplace in producing high-quality and profitable outcomes. Work engagement is related to the performance of the job and other significant consequences related to work, (Ahmed et al. 2015; Ahmed et al. 2017, Ahmed et al. 2019). It is characterized as a positive mental state of employees that causes them to perform better, be committed, fully involved, and capable of doing well at work (Schaufeli et al. 2002). In fact, despite the abundance of literature on how participation can boost work performance, it ostensibly fails to identify the factors that can lead to lower levels of engagement (Crawford et al. 2010). According to researchers, engagement entails a balance of energies of physique, emotions, and cognition. Employees who are engaged have a strong bond with their organization. However, some researchers have discovered that engagement varies from one point to the next (Sonnentag 2003). Engagement varies across and within people, as it does with many other constructs (Thoresen, Kaplan et al. 2010). While according to Schaufeli, et al. (2000) "Employee engagement is primarily characterized by vigor, dedication, and absorption".

### 2.3 High-performance work system

HPWS refers to the integration of various HR practices and systems, such as training and development, performance management, and compensation, aimed at increasing organizational effectiveness and competitiveness. (Budhwar et al. 2019). A HPWS is a comprehensive approach that involves creating a work environment where employees are empowered, engaged, and motivated to achieve their full potential, leading to enhanced organizational

performance. (Hackett, 2019). HPWS is a set of practices, processes, and systems that are interrelated and intended for attracting and developing employees and retaining, and motivating them to achieve the organization's strategic goals (Aguinis et al. 2018). HPWS is thought to enhance employee engagement by fostering a sense of organizational support and fulfilling the expectations of employees (Collings et al. 2015).

## 2.4 Underpinning theories

Social exchange theory and self-determination theory are the key underpinning theories used to describe the aforesaid study approach. Recent research has validated the use of social exchange theory as the guiding theory in studies examining the connections between psychological contract breach, employee engagement, and HPWS. As an illustration, Li et al. (2019) study indicated that with the existence of HPWS, the negative effects of psychological contract breach on employee engagement were lessened. Also, the relationship between psychological contract breach and employee engagement was also found to be significantly moderated by HPWS in a different research study conducted by Gao et al. (2021).

Self-determination theory is a psychological theory that explains how people are encouraged to chase their targets and how they maintain their psychological well-being. According to SDT, gratifying people's intrinsic psychological requirements for autonomy, competence, and relatedness leads to happiness and is crucial for optimal psychological well-being and performance (Deci & Ryan 1991). Current research has discovered evidence in favor of the use of SDT in analyzing the connections between psychological contract breach, employee engagement, and HPWS. Further, a study conducted by Kim et al. (2020a, b) found that psychological contract breach was negatively correlated with employee engagement, but that this relationship was moderated by HPWS that facilitated employee autonomy, competence, and relatedness (Kim et al. 2020).

According to Kim et al. (2020a, b), employees' engagement was negatively correlated with psychological contract breach. In a different study, Li et al. (2021) discovered that psychological contract breach was negatively related to employee engagement among Chinese workers (Li et al. 2021). In light of this, current scholarly research lends credence to the idea that psychological contract violation and employee engagement are negatively correlated.

H1: There is a negative relation between psychological contract breach and employee engagement.

Lu et al. (2020) discovered that psychological contract breach has a negative effect on HPWS, as it undermines trust and commitment of employees. Also, it reduces their will to involve in extra-role behaviors, such as creativity and innovation. Further, the psychological contract breach has a negative effect on employees' perceptions of HPWS, according to a study by Sánchez-Pérez, Carrasco-Labra, and González-Romá (2020). These studies support the hypothesis that psychological contract breach negatively affects employee perceptions and attitudes toward HPWS, resulting in lower levels of employee engagement, organizational commitment, and job satisfaction. Accordingly, we formulate the hypothesis as follows:

H2: There is a negative relationship between psychological contract breach and HPWS.

Employee engagement is positively correlated with HPWS, including organizational culture and methods of managing human resources, according to a study by Chen, Chen,

and Chen (2019). Another study by Chen, Yeung, and Riggio (2018) discovered a favorable relationship between HPWS and employee engagement.

H3: HPWS are positively related to employee engagement.

Kim et al. (2020a, b) found that HPWS moderates the relationship between psychological contract breach and employee engagement. In another study, Chen et al. (2018) found that organizations with low HPWS showed a negative and significant relationship between psychological contract breach and employee engagement than those with high HPWS. It is further supported by a third study conducted by Kim and Lee (2019), it suggests that with the moderating role of HPWS, the negative relationship of psychological contract breach with employee engagement can be moderated.

H4: HPWS moderates the negative relationship between psychological contract breach and employee engagement.

### 3 Methods

We distributed 250 self-administered questionnaires among the employees of public sector banks of Larkana, Pakistan, as part of this study. 209 out of the 250 questionnaires were returned, and these were all used in the data analysis. Hence, the current study's response rate was 83.6%. Moreover, data screening was performed prior to data analysis to ensure that the results would not be impacted by the distribution of the data (Ong & Putch, 2017).

#### 3.1 Measurements

*Psychological contract breach;* To measure the level of participants for psychological contract breach construct a questionnaire containing five items that were developed by Robinson & Morrison (2000) has been utilized.

*Employee engagement;* A 17-item scale was created by Schaufeli, Bakker, and Salanova (2006) to measure employee engagement. Participants were advised to input feedback of each item on a Likert scale of 1–5 (with 5 being the highest rating strongly agree and 1 being the Lowest rating strongly disagree). Examples of items on the scale are "Time flies when I am working" and "At my job, I am bursting with energy."

*High-performance Work System;* To measure HPWS practices, we developed a 27-item scale, which is based on Bamberger and Meshoulam (2000).

### 4 Results

Demographics is a term that refers to the statistical characteristics of a population, such as age, gender, ethnicity, race, income, geographic location, and education level (Frey 2018). The study of demographics is essential for understanding the makeup of a population and how it is changing over time. The demographic profile of study population is given under Table 1:

We utilized the smart PLS-SEM to test the hypotheses of the research and to assess the model accuracy (measurement model MM and structural model SM). Data screening has also been conducted with SPSS to check for multicollinearity, normality, multicollinearity, outliers, and missing data.

**Table 1** Demographic profile of respondents

| Categories                 |                | Frequency number | percent% | Valid percent% | Cumulative percent% |
|----------------------------|----------------|------------------|----------|----------------|---------------------|
| Gender                     | Male-X         | 153              | 73.2     | 73.2           | 73.2                |
|                            | Female-Y       | 56               | 26.8     | 26.8           | 100.0               |
| Age                        | 20–30 Years    | 36               | 17.2     | 17.2           | 17.2                |
|                            | 31–40 Years    | 131              | 62.7     | 62.7           | 79.9                |
|                            | 41–50 Years    | 13               | 6.2      | 6.2            | 86.1                |
|                            | Above 50 Years | 29               | 13.9     | 13.9           | 100.0               |
| Academic qualification     | Undergraduate  | 4                | 1.9      | 1.9            | 1.9                 |
|                            | graduate       | 199              | 95.2     | 95.2           | 97.1                |
|                            | Post graduate  | 6                | 2.9      | 2.9            | 100.0               |
| Professional qualification | JAIBP          | 192              | 91.9     | 91.9           | 91.9                |
|                            | AIBP           | 17               | 8.1      | 8.1            | 100.0               |
| Grade                      | Officer        | 168              | 80.4     | 80.4           | 80.4                |
|                            | Executive      | 41               | 19.6     | 19.6           | 100.0               |
|                            | Total          | 209              | 100.0    | 100.0          |                     |
| Corporate experience       | 01–05 Years    | 22               | 10.5     | 10.5           | 10.5                |
|                            | 06–10 Years    | 21               | 10.0     | 10.0           | 20.6                |
|                            | 11–20 Years    | 150              | 71.8     | 71.8           | 92.3                |
|                            | Above 20 Years | 16               | 7.7      | 7.7            | 100.0               |

Factor loading tests are an essential part of structural equation modeling, as they help to evaluate the validity of the measurement model along with its reliability. Factor loading tests are important for evaluating the validity, reliability, and model fit of a measurement model (Hair, Matthews, 2017). They help to ensure that the measurement model effectively measures the intended constructs and can be used to make valid inferences about the research questions or hypotheses (Matthews, & Sarstedt 2017). A factor loading between 0.4 and 0.7 is considered good, while 0.7 or higher is considered excellent, between 0.3 and 0.4 is considered fair, while below 0.3 is considered poor and should be carefully examined, as it may indicate that the indicator is not measuring the construct effectively (Matthews, & Sarstedt 2017). In doing so, the sub-variable "employee security" was showing factor loading of  $-0.111$  hence, it was deviating results, so it was deleted. This has been shown in Figs. 1 and 2.

The convergent validity is measured with two indices that are average variance extracted (AVE) and composite reliability (CR). According to Galindo-Martin, Castao-Martnez, and Méndez-Picazo (2019), CR is a statistical measure that assesses the internal consistency of a scale or measurement instrument. It indicates the extent to which the variation in the responses to the questions or items of the scale can be attributed to the underlying construct being measured, rather than other sources of variability. It is represented by a coefficient that range between 0 and 1, the higher value of the coefficient indicates increased internal consistency. An acceptable threshold for CR is generally considered to be 0.70 or higher.

AVE indicates how much variance a set of indicators shares in common with the construct they are meant to measure convergent validity in a measurement model. AVE is used to evaluate the adequacy of a construct's measurement by its indicators. The acceptable

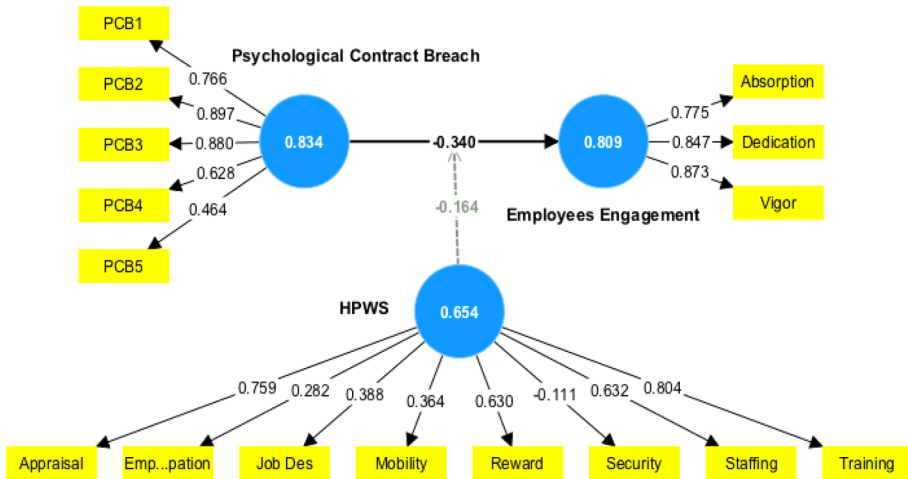


Fig. 1 Measurement Model PLS algorithm factor loadings of items before deleting Security

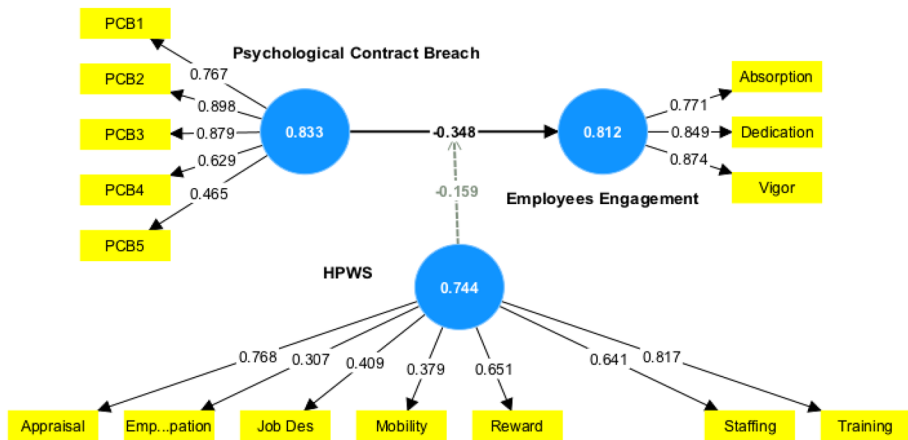


Fig. 2 Measurement Model PLS algorithm factor loadings of items after deleting Security

threshold of the AVE, which is 0.50, is used to verify that factors represent variance from their respective indicators with more than half (Galindo-Martin, Castao-Martinez, & Méndez-Picazo, 2019).

A statistical measure of internal consistency that assesses the reliability of a scale or measurement instrument is called as Cronbach’s alpha. It assesses how well all of the items on a scale measure the same underlying construct (Heale, & Twycross 2015). It is expressed by a coefficient ranging from 0 to 1, with higher values suggesting greater internal consistency, and 0.70 or higher is a generally used cutoff for acceptable Cronbach’s alpha (Hair et al. 2017). The cronbach’s alpha, CR and AVE of the factors of this study is produced in Table 2.

Discriminant validity is a statistical measure that checks each concept in a measurement model is empirically different and describes an authenticity not covered by other



**Table 2** Cronbach's alpha, composite reliability and average variance extracted

|      | Cronbachs alpha | CR—rho_a | CR—rho_c | AVE   |
|------|-----------------|----------|----------|-------|
| EE   | 0.812           | 0.812    | 0.867    | 0.686 |
| HPWS | 0.744           | 0.744    | 0.789    | 0.374 |
| PCB  | 0.833           | 0.833    | 0.876    | 0.591 |

constructs (Franke, & Sarstedt 2019). Discriminant validity is used to assess the correlation between constructs in a measure, ensuring that they are not too strongly related and that they are measuring different things. This is done by ensuring that the test does not have a high correlation with measures that the construct is supposed to differ from (Shaffer et al. 2016). The data of discriminant validity is given in Table 3.

The heterotrait-monotrait (HTMT) correlation ratio is a unique method for testing discriminant validity in PLS-SEM. The HTMT technique compares the correlations between indicators of the measure and indicators of the same construct. Because it doesn't rely on real model estimates, this method is complete and controlled, and it may be used with any latent variable method by researchers who are utilizing PLS-SEM. The HTMT results are presented in Table 4.

The structural model as shown in Fig. 3 represents the connections between latent variables or constructs, indicating how they are related to each other. It is mainly used to examine complex relationships between multiple latent variables or constructs. Bootstrapping is used to estimate the variability of a model parameter or statistic by resampling the data. In structural model measurement, bootstrapping can be used to evaluate the stability and precision of the measurement model (Hair et al. 2017). T-tests are an important tool in Smart PLS for determining the statistical significance of the correlations between variables in the structural model. These tests help to confirm or reject hypotheses about the relationships between variables and give evidence for the structural model's validity. In Smart PLS, a T-value more than 1.96 or less than  $-1.96$  is deemed statistically significant at the 5% level (Ringle et al. 2018). We used T-tests to determine the relevance of the route model linkages in the Smart PLS utilizing bootstrapping. The testing results of the structural model path coefficients along with moderation are produced in Table 5.

**Table 3** Discriminant validity

|            | EE    | HPWS  | PCB   |
|------------|-------|-------|-------|
| EE         |       |       |       |
| HPWS       | 0.260 |       |       |
| PCB        | 0.333 | 0.196 |       |
| HPWS x PCB | 0.128 | 0.155 | 0.130 |

**Table 4** HTMT—A new criterion to assess discriminant validity

|            | EE    | HPWS  | PCB   | HPWS x PCB |
|------------|-------|-------|-------|------------|
| EE         |       |       |       |            |
| HPWS       | 0.260 |       |       |            |
| PCB        | 0.333 | 0.196 |       |            |
| HPWS x PCB | 0.128 | 0.155 | 0.130 |            |

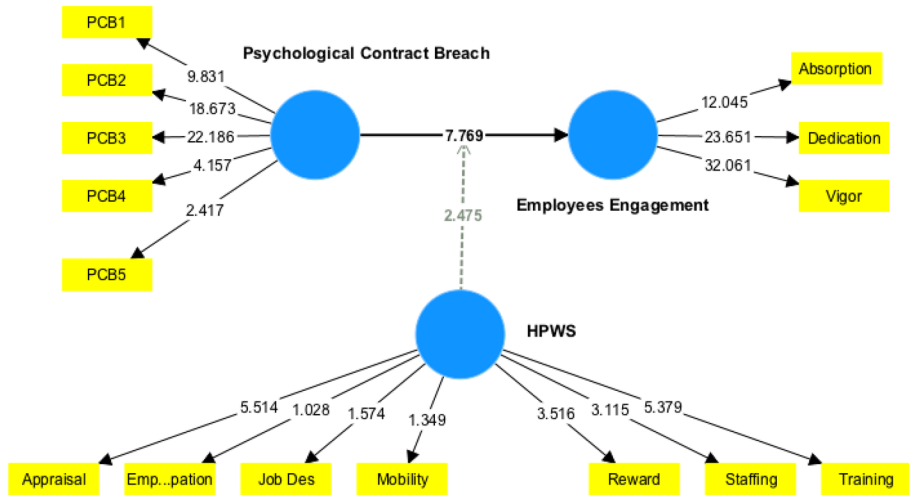


Fig. 3 Structural model

Table 5 Significance testing results of the structural model path coefficients along with moderation

|                 | Original sample (O) | Mean (M) | STDEV | T statistics | P values |
|-----------------|---------------------|----------|-------|--------------|----------|
| HPWS → EE       | 0.202               | 0.228    | 0.055 | 3.679        | 0.000    |
| PCB → EE        | -0.348              | -0.355   | 0.045 | 7.769        | 0.000    |
| HPWS x PCB → EE | -0.159              | -0.161   | 0.064 | 2.475        | 0.013    |

Table 6 Coefficient of determination (R<sup>2</sup>)

|                      | R <sup>2</sup> | R <sup>2</sup> adjusted |
|----------------------|----------------|-------------------------|
| Employees Engagement | 0.533          | 0.520                   |

R-squared (R<sup>2</sup>), also known as the coefficient of determination, is a statistical tool used to assess the goodness of fit of a regression model to the data it represents. R<sup>2</sup> values range from 0 to 1, with higher values indicating a stronger correlation between the model and the data.

In this study, employee engagement is the main construct being examined. A significant coefficient of determination (R<sup>2</sup>=0.533) is indicated by the Smart PLS path model estimation results, which are displayed. Hence, in this study, the three constructs employee engagement, psychological contract breach, and HPWS together can describe 53% of the variance in the endogenous (employee engagement) construct. The result of R<sup>2</sup> is given in Table 6.

So far four hypotheses were proposed in the methodology section of the study and all four hypotheses of this study are accepted at a significant level. The findings of the hypothesis testing for the research questions of this study obtained by using PLS-SEM in Smart PLS are presented in Table 7.

**Table 7** Hypotheses testing results

| Hypothesis | Path                             | $\beta^*$ | t-value** | p value*** | Result    |
|------------|----------------------------------|-----------|-----------|------------|-----------|
| H1         | PCB—> EE (Direct Model)          | -0.473    | 11.198    | 0.000      | Supported |
| H2         | PCB—> HPWS (Direct Model)        | -0.384    | 6.193     | 0.000      | Supported |
| H3         | HPWS—> EE (Direct Model)         | 0.237     | 4.008     | 0.000      | Supported |
| H4         | HPWS x PCB—> EE (Indirect Model) | -0.159    | 2.475     | 0.013      | Supported |

\* Beta Coefficient ( $\beta$ )

\*\* $t \geq 1.96$

\*\*\* $p \leq 0.05$

## 5 Discussions

This study revealed evidence to support all four hypotheses on the direct correlation between an exogenous latent variable and an endogenous latent variable. A psychological contract breach had a significant negative impact on both employee engagement and the high-performance work system, according to the PLS path model results. Additionally, it was found that a HPWS was significantly and positively related with employee engagement.

The psychological contract between employers and employees represents implicit expectations and commitments (Robinson and Morrison 2000). Breaching this contract has negative effects on employee engagement, including lower commitment, trust, job satisfaction, and higher levels of cynicism and quitting intentions (Conway and Briner 2005).

HPWS can enhance organizational effectiveness, but the existence of psychological contract breach can reduce the effectiveness of HPWS. When employees' expectations are not met, it can lead to decreased performance and productivity, and increased turnover (Becker & Huselid 2006). HPWS practices like extensive training, selective staffing, internal mobility, incentive rewards, result-oriented appraisals, participation, and employment security can lead to increased efficiency and effectiveness. Prioritizing employee engagement and HPWS can lead to improved productivity, customer satisfaction, and profitability for organizations (Huselid 1995).

Studies have shown that HPWS can moderate the negative impact of psychological contract breach on employee engagement (Meyer & Van Dick 2007). Implementing HPWS can restore trust and dedication between employees and the company, even in the face of contract breach (Zhang et al. 2014). However, the positive effect of HPWS on employee engagement may be less pronounced when there is a high level of contract breach. Overall, HPWS can act as a moderator in the relationship between psychological contract breach and employee engagement, particularly when there are few contract breaches.

### 5.1 Theoretical implications

This study drew upon two theoretical frameworks, social exchange theory and self-determination theory, to examine the relationship between psychological contract breach and employee engagement. It also included high-performance work systems as a moderating variable to better understand this relationship. Social exchange theory suggests that

employees enter into a psychological contract with their employer, agreeing to perform certain tasks in exchange for certain benefits. If they feel that the employer has breached this contract, their motivation and engagement may decrease. The study found that high-performance work systems can serve as a buffer against the negative impacts of psychological contract breach on employee engagement.

Self-determination theory proposes that HPWS can act as a buffer against the negative effects of psychological contract breach on employee engagement by providing a supportive work environment that fosters employee autonomy, competence, and relatedness. Research has shown that HPWS can lessen the negative impacts of psychological contract breach on employee engagement.

### 5.1.1 Practical implications

The findings of the study on the moderating effect of HPWS on the relationship between psychological contract breach and employee engagement have significant implications for HRM strategies in public sector banks. One practical implication is that organizations can use HPWS to mitigate the negative effects of psychological contract breach and foster an empathetic work culture that supports employees to work hard and feel more a part of the company. Another implication is that organizations should be proactive in addressing psychological contract breach and implementing HPWS to prevent negative outcomes. Finally, firms can use the research findings to enhance their HR policies and procedures, such as prioritizing maintaining psychological contracts with employees and implementing HPWS to enhance engagement. Overall, the study suggests that HPWS can reduce the negative effects of psychological contract breach and create a productive workplace that boosts employee engagement.

### 5.1.2 Methodological implications

This study used a quantitative methodology to investigate the relationship between psychological contract breach, HPWS, and employee engagement in a sample of public sector bank employees. While the cross-sectional design restricted the ability to draw causal conclusions, the study's sample size allowed for greater generalizability of the findings. Self-report measures were used, but future research should consider using multiple methods of data collection. PLS-SEM was used to assess the psychometric characteristics of each latent variable. The study's results may not be applicable to other contexts, so future research should consider replication in different industries and settings.

## 5.2 Limitations and future research directions

The study has various limitations that must be addressed when evaluating the findings. Limitations include the cross-sectional design, reliance on self-report measures, and limited generalizability due to the specific background of public sector banks in Larkana, convenience sampling, and the focus only on the moderating effect of HPWS on the relationship between psychological contract breach and employee engagement. Future research should consider addressing these limitations by employing a longitudinal design, using diverse methods of data collection, replicating the study in different contexts, including other variables that affect employee engagement, and controlling for biases in self-report measures.

### 5.3 Conclusion

The current study has expanded our understanding of how a high-performance work environment can impact the relationship between employee engagement and psychological contract breach. The study's conclusions support the suggested theoretical concepts and give answers to the study's questions and goals. By considering the moderating role of an HPWS, this work addresses a research need. Prior research has looked into the causes of psychological contract breach. The study offers insightful information despite certain limitations.

The results of this study demonstrate that the relationship between psychological contract breach and employee engagement can be moderated by a high-performance work system. The study also successfully assessed how exogenous and endogenous variables might theoretically moderate this relationship. By focusing on the moderating function of HPWS, the theoretical framework of the research study also contributed to the body of knowledge on social exchange theory, and self-determination theory.

For the banking industry, other businesses, and managers, this study offers practical applications in addition to theoretical ones. Despite some limitations, the study suggests possible directions for further research. In general, the study significantly advances the domains of organizational, industrial, and banking psychology, particularly in the administration and management of human resources.

**Funding** The authors have not disclosed any funding.

### Declarations

**Conflict of interest** The authors declare that they have no conflict of interest.

### References

- Aguinis, H., Lu, J., Pierce, C.A.: High-performance work systems: a state-of-the-art review and directions for future research. *Annu. Rev. Organ. Psych. Organ. Behav.* **5**, 103–128 (2018)
- Ahmed, S., Phulpoto, S.A., Shah, S.Z.A.: The relationship between job performance and employee engagement: evidence from higher education sector of Pakistan. *J. Bus. Manage. Sci.* **3**(4), 109–115 (2015)
- Ahmed, S., Shah, S.Z.A., Usman, A., Faisal, M.N.: High-performance work system and employee job performance: the mediating role of employee engagement. *Manag. Res. Rev.* **40**(12), 1356–1375 (2017)
- Ahmed, I., Akhtar, N., Umar, M.: High-performance work system and employee engagement: a study of public sector banks in Pakistan. *Journal of Management Info* **3**(3), 56–68 (2019a)
- Ahmed, S., Khalid, R., Phulpoto, S.A., Chandio, S.A.: High-performance work system and employee job performance: mediating role of employee engagement. *J. Organ. Change Manag* **32**(7), 265–291 (2019)
- Bakker, A.B.: The work-related flow inventory: construction and initial validation of the WOLF. *J. Vocat. Behav.* **72**(3), 400–414 (2008)
- Bakker, A.B., Schaufeli, W.B.: Positive organizational behavior: engaged employees in flourishing organizations. *J. Organ. Behav.* **29**(2), 147–154 (2008)
- Becker, B.E., Huselid, M.A.: Strategic human resources management: Where do we go from here? *J. Manag.* **32**(6), 898–925 (2006)
- Budhwar, P.S., Mukherjee, A., Renwick, D.W.S.: Human resource management and performance in health-care organisations. *Hum. Resour. Manag. J.* **29**(1), 1–11 (2019)
- Chen, S., Westman, M., Eden, D.: Impact of enhanced psychological health literacy on help-seeking efficacy and barriers in employees. *Journal of Applied Psychology* **103**(10), 1101–1116 (2018)
- Collings, D.G., Mellahi, K., Cascio, W.F.: Global talent management and performance in multinational enterprises: a multilevel perspective. *J. Manag.* **41**(2), 540–566 (2015)

- Conway, N., Briner, R.B.: Understanding psychological contracts at work: a critical evaluation of theory and research. Oxford University Press, Oxford (2005)
- Crawford, E.R., LePine, J.A., Rich, B.L.: Linking job demands and resources to employee engagement and burnout: a theoretical extension and meta-analytic test. *J. Appl. Psychol.* **95**(5), 834–848 (2010)
- Deci, E.L., Ryan, R.M.: A motivational approach to self: Integration in personality. In: Dienstbier, R. (ed.) Nebraska symposium on motivation, vol. 38, pp. 237–288. University of Nebraska Press, Lincoln (1991)
- Eisenbeiss, S.A., Knippenberg, D.V., Boerner, S.: Transformational leadership and team innovation: integrating team climate principles. *J. Appl. Psychol.* **93**(6), 1438–1446 (2008)
- Franke, G., Sarstedt, M.: Heuristics versus statistics in discriminant validity testing: a comparison of four procedures. *J. Bus. Res.* **98**, 365–374 (2019)
- Frey, W.H.: Diversity explosion: how new racial demographics are remaking America. Brookings Institution Press, Washington (2018)
- Galindo-Martin, M.Á., Castao-Martínez, V., Méndez-Picazo, M.T.: Developing and validating an instrument to measure the impact of sustainable events on destination image. *J. Sustain. Tour.* **27**(4), 335–355 (2019)
- Gao, L., Li, X., Xu, Y., Zhou, Q.: High-performance work system and psychological contract breach: the moderating role of employee well-being. *Front. Psychol.* **12**, 804 (2021)
- Goh, C.F., Oyon, D., Fong, T.C.: High-performance work system, psychological contract breach and employee engagement: a study of Singapore public sector bank employees. *Asia-Pacific J. Bus. Adm.* **12**(2), 56–71 (2020)
- Hackett, R.D.: Reducing turnover intentions: The differential effects of engaged and workaholic employees. *Career Dev. Int.* **24**(1), 18–36 (2019)
- Hair, J.F., Matthews, L.M., Matthews, R.L.: Multivariate data analysis: a global perspective. Pearson, Hoboken (2017)
- Heale, R., Twycross, A.: Validity and reliability in quantitative studies. *Evid. Based Nurs.* **18**(3), 66–67 (2015)
- Huselid, M.A.: The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Acad. Manag. J.* **38**(3), 635–672 (1995)
- Kaplan, S., Berman, M.G.: Directed attention as a common resource for executive functioning and selfregulation. *Perspectives on Psychological Science* **5**(1), 43–57 (2010)
- Karagonlar, G., Eisenberger, R., Aselage, J., Wolfe, D.: Reciprocation warps implicit social cognitions: an investigation of the role of the psychological contract. *Acad. Manag. J.* **59**(5), 1685–1701 (2016)
- Khan, A., Imran, M.K., Jan, F.A., Ahmad, M.: Impact of high performance work system on employee engagement and its impact on organizational performance: empirical evidence from public sector banks of Pakistan. *Glob. Bus. Rev.* **21**(1), 131–147 (2020)
- Kim, M.J., Kim, H.J., Lee, J.W.: The influence of high-performance work systems on employee engagement: moderating effect of psychological contract breach. *Sustainability* **12**(11), 4554 (2020a)
- Kim, J., Lee, J., Shin, K.: The effects of psychological contract breach on employee engagement: the mediating role of perceived organizational support and the moderating role of high-performance work systems. *Sustainability* **12**(20), 8697 (2020b)
- Kutaula, S., Gillani, A.H., Wang, X.: The effect of psychological contract breach on employee attitudes and behavior: the role of cultural orientation. *Asia Pacific J. Manage.* **37**(3), 913–938 (2020)
- Li, Y., Gu, X., & Lu, C. (2019). The relationship between psychological contract breach, employee engagement, and high-performance work systems: evidence from Chinese manufacturing
- Li, Y., Gu, X., Fang, L.: Psychological contract breach and employee engagement: evidence from Chinese workers. *Curr. Psychol.* **40**(11), 520–540 (2021)
- Lu, C.Q., Wang, H.J., Lu, J.J., Du, D.Y., Bakker, A.B.: Does work engagement increase person–job fit? The role of job crafting and job insecurity. *Journal of Vocational Behavior* **119**(7), 103–141 (2020)
- Matthews, L.M., Sarstedt, M.: Factor loadings and cross-loadings in partial least squares path modeling: importance and equivalence. *J. Bus. Res.* **88**, 1–11 (2017)
- Meyer, J.P., Van Dick, R.: Social exchange theory. In: *Handbook of organizational behavior*, pp. 3–19. SAGE Publications, Thousand Oaks (2007)
- Morrison, E.W., Robinson, S.L.: When employees feel betrayed: a model of how psychological contract violation develops. *Acad. Manag. Rev.* **22**(1), 226–256 (1997)
- Ringle, C.M., Sarstedt, M., Mitchell, R.: Partial least squares structural equation modeling in HRM research. *Int. J. Hum. Resour. Manag.* **29**(9), 1417–1442 (2018)
- Robinson, S.L., Morrison, E.W.: The development of psychological contract breach and violation: a longitudinal study. *J. Organ. Behav.* **21**(5), 525–546 (2000)

- Roehling, M.V.: The origins and early development of the psychological contract construct. *J. Manag. Hist.* **3**(3), 204–217 (1997)
- Romá, V.G., Schaufeli, W.B.: Desempleo y bienestar: la pérdida del trabajo y sus efectos sobre la salud mental y la satisfacción con la vida [Unemployment and well-being: Job loss and its effects on mental health and life satisfaction]. *Psicothema* **32**(1), 66–71 (2020)
- Rousseau, D.M.: Psychological and implied contracts in organizations. *Empl. Responsib. Rights J.* **2**(2), 121–139 (1989)
- Rousseau, D.M.: Schema, promise and mutuality: the building blocks of the psychological contract. *J. Occup. Organ. Psychol.* **74**(4), 511–541 (2001)
- Schaufeli, W.B., Salanova, M., González-Romá, V., Bakker, A.B.: The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies* **3**(1), 71–92 (2002)
- Schaufeli, W.B., Bakker, A.B.: Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *J. Organ. Behav.* **35**(3), 285–308 (2014)
- Shaffer, J.A., DeGeest, D.S., Li, A.: Combining effect size estimates in meta-analysis with repeated measures and independent-groups designs. *Psychol. Methods* **21**(4), 524–536 (2016)
- Smithson, J., Lewis, S.: Is the psychological contract worth taking seriously? A “yes” from employees and a “no” from employers. *Empl. Relat.* **25**(6), 581–592 (2003)
- Sonnetag, S.: Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *J. Appl. Psychol.* **88**(3), 518–528 (2003)
- Sorenson, R.L.: Toward a comprehensive understanding of executive cognitive function in midlife employees. *Journal of Management* **39**(6), 1427–1454 (2013)
- Zhang, X., Li, Y., Liang, X.: How do high-performance work systems affect individual outcomes: a multi-level perspective. *Hum. Resour. Manag. Rev.* **24**(3), 271–281 (2014)

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.