



Research Article

Linking Equal Employment Opportunity to Innovative Work Behavior: The Roles of Organizational Justice, Psychological Safety, and Employee Engagement

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Abstract: This study explored the impact of equal employment opportunity (EEO) on innovative work behavior, with organizational justice, psychological safety, and employee engagement as mediators, within Indonesia's banking sector. A quantitative survey design was used, gathering data from employees in both private and state-owned banks. Partial least squares structural equation modeling (PLS-SEM) was applied to analyze the proposed relationships. The findings indicated that EEO positively influenced perceptions of fairness, interpersonal safety, and work engagement. These psychological factors were found to have a positive impact on innovative work behavior. Additionally, all three variables acted as significant mediators between EEO and innovative behavior. In essence, the study highlighted how EEO policies based on fairness helped create a work environment that promotes engagement and psychological safety, thereby encouraging employees to generate new ideas and contribute to organizational improvements. These results emphasize the role of fair human resource practices in fostering innovation within organizations.

Keywords: Employee Engagement; Equal Employment Opportunity; Innovative Work Behavior; Organizational Justice; Psychological Safety

1. Introduction

Major changes in the modern workplace are driving organizations to review human resource (HR) policies that ensure the principles of fairness, equality, and inclusivity. One fundamental concept in sustainable HR management is Equal Employment Opportunity (EEO). This principle emphasizes that every individual has the same right to be recruited, trained, promoted, and compensated regardless of gender, age, race, religion, or social background (Siddiquee & Farqi, 2010). In the context of globalization and digital transformation, EEO practices are crucial because organizations are required not only to be economically competitive but also to be socially responsible for the diversity of their workforce.

In Indonesia, the concept of EEO (Equal Employment Opportunity) is gaining traction in both the public and private sectors, in line with growing awareness of the importance of diversity management and an inclusive workplace. However, the implementation of EEO policies still faces significant challenges, particularly in the banking sector, where hierarchical structures, conservative organizational cultures, and gender-based dominance are still common (Astuti, 2023). Although several large banks have formally implemented non-discrimination policies, practice in the field demonstrates gaps in job promotions, gender inequality, and implicit biases that impact employee innovation (Winasis et al., 2020).

This context highlights an important research problem: the extent to which EEO policies and practices actually impact employee innovative behavior in the Indonesian banking workplace. Innovative behavior is an indicator of an organization's adaptability to technological disruption (Janssen, 2000). When EEO principles are implemented effectively,

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employees will feel valued, psychologically secure, and more emotionally engaged which ultimately encouraging innovation (Edmondson, 1999; Schaufeli et al., 2006).

Various previous studies have demonstrated the importance of EEO in creating a positive work environment. For example, (Siddiquee & Faroqi, 2010) found that EEO policies in public institutions influence perceptions of fairness and organizational innovation. Recent research even confirms that "Equal Employment Opportunity has significant effects on employees' engagement by fostering a fair, inclusive, and respectful work environment (Chinedu-Eze et al., n.d.). (Nishii, 2013) also demonstrated that an inclusive climate that supports equality can increase job satisfaction and reduce employee turnover intentions.

Furthermore, organizational justice has been shown to play a crucial role in fostering a positive psychological climate in the workplace. Recent studies confirm that "a statistically significant and robust relationship was found between employees' perceptions of organizational justice and their levels of psychological capital and job satisfaction" (Yetgin, 2024). This sense of justice then fosters trust, which strengthens employee engagement. Other research suggests that "psychological safety plays a partial mediating role in the association between organizational justice and work engagement" (Lyu, 2016), indicating that justice and psychological safety are two important foundations of work engagement.

Furthermore, engagement has been empirically proven to be a key predictor of innovation. A study by (Koroglu & Ozmen, 2022) confirmed that "employee engagement significantly influences innovative work behavior," while research by (Mustapha et al., 2022) highlighted that "diversity management promotes innovative work behavior by promoting inclusion and making equal opportunities available throughout the organization." Thus, the relationship between EEO, organizational justice, psychological safety, and engagement forms a causal chain that explains how EEO policies encourage innovation.

In terms of novelty, this study provides a conceptual contribution by integrating three psychological mediation pathways rarely tested simultaneously in the context of the Indonesian banking sector. Most previous studies have only examined the relationship between two variables directly, without considering psychological factors that act as intermediaries (Alhejji et al., 2022; Siddiquee & Faroqi, 2010). This approach is expected to provide a more comprehensive understanding of how EEO policies translate into positive employee behavior through perceptions of fairness, a sense of security, and strong engagement.

Furthermore, this research has practical significance because the Indonesian banking sector is facing significant changes due to digital transformation, hybrid work systems, and global talent competition. Banks that successfully build a strong EEO culture have the potential to have more adaptive and innovative employees.

The objectives of this study are to analyze the direct influence of Employee Empowerment Orientation (EEO) on the innovative behavior of banking employees, to examine the mediating roles of organizational justice, psychological safety, and employee engagement in this relationship, and to provide strategic recommendations for the Indonesian banking sector in implementing EEO practices more effectively to enhance workplace innovation.

This research is based on Social Exchange Theory (Blau, 2017), Organizational Justice Theory (Colquitt, 2001), and the Psychological Safety Model (Edmondson, 1999), and strengthens the EEO literature with comprehensive psychological mechanisms.

2. Literature Review

Equal Employment Opportunity (EEO)

EEO is a fundamental principle that requires organizations to treat all individuals fairly and without discrimination in recruitment, training, promotion, and compensation (Siddiquee & Faroqi, 2010). This policy is a crucial component of modern human resource management practices to build an inclusive workplace. According to diversity management theory, organizations that uphold equal opportunity will increase employee trust and job satisfaction (Nishii, 2013). (Chinedu-Eze et al., n.d.) found that "Equal Employment Opportunity has significant effects on employees' engagement by fostering a fair, inclusive, and respectful work environment." Thus, implementing EEO has the potential to increase engagement because employees feel valued equally. In the Indonesian banking context, (Winasis et al., 2020)

emphasized that positive perceptions of EEO are associated with employee commitment and retention, but their impact on innovation requires additional explanatory mechanisms. This suggests the need to integrate EEO with psychological factors such as organizational justice and job security.

Organizational Justice

Organizational justice describes employees' perceptions of the extent to which organizational policies and processes are implemented fairly. (Colquitt, 2001) divides justice into three dimensions: distributive, procedural, and interactional. These dimensions reflect the fairness of outcomes, processes, and interpersonal treatment. Recent research shows that organizational justice plays a central role in building engagement and job satisfaction. (Yetgin, 2024) reported that "a statistically significant and robust relationship was found between employees' perceptions of organizational justice and their levels of psychological capital and job satisfaction." This finding strengthens the argument that organizational justice serves as an initial pathway linking EEO policies to employee behavior. Furthermore, (Lyu, 2016) added that "psychological safety plays a partial mediating role in the association between organizational justice and work engagement." This means that high perceptions of justice promote a sense of psychological safety, which in turn increases engagement. In other words, organizational justice plays a role in fostering positive psychological states that encourage innovation.

Psychological Safety

The concept of psychological safety was introduced by (Edmondson, 1999) as the belief that the work environment is safe for taking interpersonal risks, such as expressing ideas, asking questions, or criticizing without fear of negative consequences. A psychologically safe work environment fosters collaboration and innovation (Frazier et al., 2017). Research by (Koroglu & Ozmen, 2022) confirms that innovation emerges from a work climate open to experimentation, where employees have high interpersonal trust. In the banking sector, psychological safety is particularly relevant because it encourages employees to innovate amidst strict regulations and complex bureaucracy. Several cross-cultural studies (Lyu, 2016) show that psychological safety also serves as a mediator between perceived fairness and engagement. Therefore, the integration of psychological safety into this model provides a comprehensive explanation of how EEO policies influence innovative behavior through internal psychological pathways.

Employee Engagement

Employee engagement is defined as an individual's level of energy, dedication, and involvement in their work (Schaufeli et al., 2006). Based on the Job Demands–Resources Model, engagement occurs when an organization provides supportive resources such as fairness, social support, and a sense of security. Research by (Koroglu & Ozmen, 2022) demonstrated that "employee engagement significantly influences innovative work behavior." Furthermore, (Chinedu-Eze et al., n.d.) confirmed that implementing EEO directly increases engagement by creating a fair and inclusive work environment. Engagement serves as a strengthening link between perceived fairness and retention intentions. When employees are emotionally and cognitively engaged, they are more likely to demonstrate long-term commitment to the organization (Allen & Meyer, 1990).

Innovative Work Behavior

Innovative behavior describes an employee's ability to generate, promote, and implement new ideas for work improvement (Janssen, 2000). Effective EEO creates a collaborative and safe environment, which is a prerequisite for innovation. A study by (Mustapha et al., 2022) confirms that "diversity management promotes innovative work behavior by promoting inclusion and making equal opportunities available throughout the organization." This confirms that organizations that uphold the principles of equality and diversity are better able to foster creativity. In the context of digital banking, employee innovative behavior is a key driver of successful transformation strategies. When engagement is high and a sense of psychological safety is established, employees are encouraged to actively participate in banking service and product innovation.

Conceptual Framework of the Research

Based on the literature review above, the relationship between variables can be explained in Figure 1.

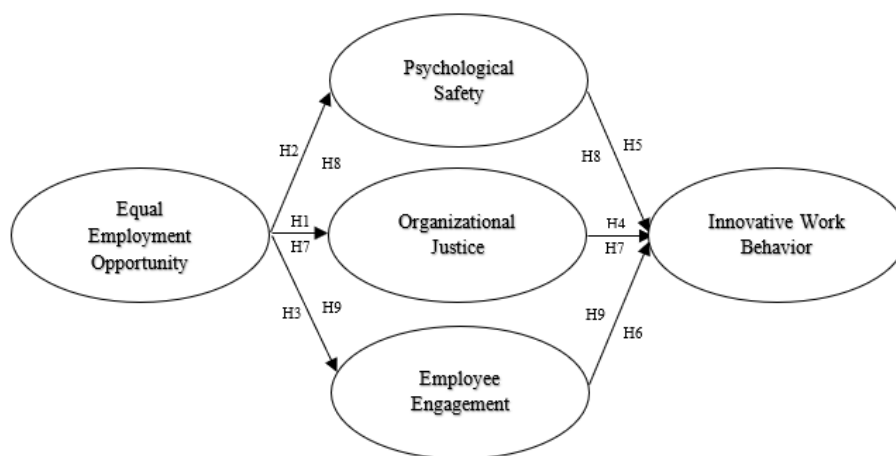


Figure 1. Conceptual Framework

This model examines how Equal Employment Opportunity (EEO) as an organizational policy can encourage Innovative Work Behavior, both directly and through three main mediators: Organizational Justice, Psychological Safety, and Employee Engagement. The following hypotheses can be proposed through this model.

H1: Equal Employment Opportunity (EEO) has a positive and significant effect on Organizational Justice.

Research consistently shows that Equal Employment Opportunity (EEO) strengthens employees' perceptions of organizational justice because nondiscriminatory practices in hiring, promotion, and compensation are interpreted as signals of fairness and integrity. EEO reinforces the three dimensions of justice, such as distributive, procedural, and interactional, by ensuring merit-based outcomes, transparent decision processes, and respectful interpersonal treatment (Colquitt, 2001; Yetgin, 2024). Empirical evidence supports this (Nishii, 2013; Siddiquee & Farooqi, 2010) found that inclusive and unbiased HR systems significantly increase employees' fairness evaluations, while studies in the banking sector show that perceived EEO enhances judgments of fair procedures and communication (Chinedu-Eze et al., n.d.; Winasis et al., 2020). Additional findings indicate that equitable treatment promotes trust and fairness reciprocity, consistent with Social Exchange Theory (Aggarwal et al., 2022; Blau, 2017). Collectively, these studies confirm that strong EEO implementation is a reliable antecedent of organizational justice across contexts and cultures.

H2: Equal Employment Opportunity (EEO) has a positive and significant effect on Psychological Safety.

Equal Employment Opportunity (EEO) has been widely linked to higher levels of psychological safety because fair and nondiscriminatory treatment reduces interpersonal risk and encourages employees to express ideas without fear of negative consequences. Research shows that equitable HR practices foster a climate of inclusion, openness, and trust key antecedents of psychological safety (Edmondson, 1999; Frazier et al., 2017). Empirical studies support this connection (Chinedu-Eze et al., n.d.) found that EEO promotes a respectful and inclusive workplace that strengthens employees' sense of safety, while (Lyu, 2016) demonstrated that fairness perceptions significantly enhance psychological safety in team settings. Additional evidence from (Mustapha et al., 2022; Yetgin, 2024) shows that when employees perceive equitable treatment, they feel more confident to voice concerns and share creative ideas. Based on these findings, EEO serves as an important organizational mechanism that cultivates psychological safety by ensuring consistent fairness and reducing bias-based anxiety.

H3: Equal Employment Opportunity (EEO) has a positive and significant effect on Employee Engagement.

Equal Employment Opportunity (EEO) has been shown to strengthen employee engagement because fair and transparent HR practices create a sense of inclusion, trust, and motivation among employees. Research consistently finds that when employees perceive equal access to promotion, training, and rewards, they develop stronger emotional attachment and psychological investment in their work (Koroglu & Ozmen, 2022; Schaufeli et al., 2006). Empirical evidence shows that EEO enhances engagement by fostering perceptions of fairness and organizational support (Chinedu-Eze et al., n.d.) reported that nondiscriminatory policies significantly boost engagement in the banking sector, while (Winasis et al., 2020) found similar results in Indonesian financial institutions. Studies grounded in Social Exchange Theory indicate that employees reciprocate equitable treatment with higher enthusiasm, dedication, and willingness to contribute (Aggarwal et al., 2022; Nishii, 2013). Collectively, these findings demonstrate that EEO plays a critical role in promoting employee engagement by building a fair, supportive, and inclusive work climate.

H4: Organizational Justice has a positive and significant effect on Innovative Work Behavior.

Organizational justice has been widely recognized as a key predictor of innovative work behavior because fair treatment enhances trust, psychological security, and employees' willingness to contribute beyond formal job requirements. Research shows that when employees perceive distributive, procedural, and interactional fairness, they are more likely to generate and implement new ideas (Colquitt, 2001; Janssen, 2000). Empirical studies confirm this link (Yetgin, 2024) found that justice perceptions significantly improve proactive and creative behaviors, while (Lyu, 2016) reported that fairness increases psychological conditions that support innovation. Furthermore, studies by (Frazier et al., 2017; Mustapha et al., 2022) demonstrate that fair and transparent HR systems foster a climate of respect and openness, which encourages employees to propose and test new solutions. In line with Social Exchange Theory, employees reciprocate fair organizational practices by engaging in innovative efforts that benefit the organization. Overall, evidence consistently supports that organizational justice positively influences innovative work behavior across sectors.

H5: Psychological Safety has a positive and significant effect on Innovative Work Behavior.

Psychological safety is widely acknowledged as a strong antecedent of innovative work behavior because employees are more willing to share ideas, experiment, and take interpersonal risks when they feel safe from negative consequences. (Edmondson, 1999) emphasizes that psychological safety enables open communication and learning behaviors essential for innovation. Empirical evidence strongly supports this relationship (Frazier et al., 2017) demonstrated through a meta-analysis that psychological safety significantly predicts creativity and proactive behavior; (Lyu, 2016) found that employees with higher psychological safety show greater initiative in generating and promoting novel ideas; and (Koroglu & Ozmen, 2022) reported that psychological safety enhances both idea generation and idea implementation in organizational settings. Additional studies indicate that safe, supportive environments reduce fear of failure and encourage experimentation, which directly contributes to innovative actions (Mustapha et al., 2022; Yetgin, 2024). Collectively, these findings confirm that psychological safety plays a critical role in enabling employees to engage in innovative work behavior.

H6: Employee Engagement has a positive and significant effect on Innovative Work Behavior.

Employee engagement is consistently identified as a strong driver of innovative work behavior because engaged employees display high levels of energy, dedication, and cognitive absorption that motivate them to contribute ideas and improvements. (Schaufeli et al., 2006) argue that engaged employees are intrinsically motivated to go beyond formal tasks, making them more proactive and innovative. Empirical studies support this linkage: (Koroglu & Ozmen, 2022) found that engagement has a significant positive effect on innovative behavior ($\beta = 0.818$), while (Aggarwal et al., 2022) showed that engaged employees demonstrate greater initiative in problem-solving and idea implementation. (Mustapha et al., 2022) further observed that when employees feel enthusiastic and committed to their work, they are more likely to promote and apply new ideas. Research by (Frazier et al., 2017; Lyu, 2016) also shows that psychological and emotional investment in work fosters creativity and experimentation. Overall, existing literature consistently confirms that employee engagement is a robust predictor of innovative work behavior across industries and cultural contexts.

H7: Organizational Justice mediate the effect of Equal Employment Opportunity (EEO) on Innovative Work Behavior.

The mediating role of organizational justice in the relationship between Equal Employment Opportunity (EEO) and innovative work behavior is strongly supported in recent literature. EEO enhances employees' fairness perceptions by ensuring that decisions related to promotion, training, and compensation are made transparently and without bias (Nishii, 2013; Siddiquee & Farooqi, 2010). Studies show that when employees perceive high fairness, they are more willing to reciprocate with positive attitudes and discretionary behaviors, including openness to change and idea generation, consistent with Social Exchange Theory (Aggarwal et al., 2022; Blau, 2017). Empirical evidence reinforces this pathway: (Yetgin, 2024) found that organizational justice significantly increases proactive and innovative behaviors; (Lyu, 2016) reported that fairness enhances psychological conditions that facilitate creativity; and (Chinedu-Eze et al., n.d.) showed that EEO strengthens fairness perceptions, which then translate into higher performance and contribution. Furthermore, (Mustapha et al., 2022) demonstrated that organizations promoting equitable treatment create climates that encourage innovation. Together, these findings indicate that EEO indirectly fosters innovative work behavior by first strengthening employees' perceptions of organizational justice, establishing justice as a key psychological mechanism linking fairness-based HR practices to employee innovation.

H8: Psychological Safety mediate the effect of Equal Employment Opportunity (EEO) on Innovative Work Behavior.

Psychological safety plays an essential mediating role in the relationship between Equal Employment Opportunity (EEO) and innovative work behavior because fair and nondiscriminatory treatment creates a secure interpersonal environment where employees feel comfortable taking risks and sharing ideas. Research shows that EEO strengthens perceptions of inclusion and respect, which are critical antecedents of psychological safety (Chinedu-Eze et al., n.d.; Nishii, 2013). According to (Edmondson, 1999), psychological safety enables individuals to express new ideas without fear of criticism or punishment conditions necessary for innovation. Empirical findings support this mediating pathway: (Frazier et al., 2017) found that psychological safety significantly predicts creative and proactive behaviors; (Lyu, 2016) demonstrated that fairness and supportive climates enhance psychological safety, which subsequently promotes innovation-relevant behaviors; and (Koroglu & Ozmen, 2022) showed that psychologically safe employees are more likely to generate, promote, and implement new ideas. Additionally, studies by (Mustapha et al., 2022; Yetgin, 2024) confirm that workplaces fostering safety and inclusiveness encourage experimentation and risk-taking, strengthening innovation. Collectively, these findings indicate that EEO indirectly enhances innovative work behavior by first building employees' psychological safety, making it a key mediating mechanism.

H9: Employee Engagement mediate the effect of Equal Employment Opportunity (EEO) on Innovative Work Behavior.

Employee engagement serves as an important mediating mechanism linking Equal Employment Opportunity (EEO) to innovative work behavior because fair and inclusive HR practices enhance employees' emotional involvement, enthusiasm, and willingness to contribute beyond their formal roles. Research shows that when employees perceive equal access to career development, rewards, and recognition, they feel valued and become more engaged (Koroglu & Ozmen, 2022; Schaufeli et al., 2006). Empirical evidence supports this mediating pathway: (Chinedu-Eze et al., n.d.) found that EEO significantly increases engagement in the banking sector, while (Winasis et al., 2020) demonstrated that fairness-based practices in Indonesian financial institutions enhance employees' psychological investment in their work. In turn, numerous studies confirm that engaged employees display stronger innovative behaviors (Koroglu & Ozmen, 2022) reported a large positive effect of engagement on innovation, and (Mustapha et al., 2022) showed that highly engaged employees promote and implement new ideas. Additionally, (Frazier et al., 2017; Lyu, 2016) found that engaged employees are more proactive, creative, and open to experimentation. Altogether, these findings indicate that EEO indirectly fosters innovative work behavior by first enhancing employee engagement, making engagement a crucial pathway through which fairness-driven HR practices stimulate innovation.

3. Proposed Method

Research Design

This study uses a quantitative explanatory approach with a cross-sectional survey design to examine the effect of Equal Employment Opportunity (EEO) on Employee Innovative Behavior through three mediating variables: Organizational Justice, Psychological Safety, and Employee Engagement. This approach was chosen because it is suitable for analyzing multivariate causal relationships and testing parallel mediation effects using Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair et al., 2021). The structural model is developed from Social Exchange Theory (Blau, 2017), Organizational Justice Theory (Colquitt, 2001), and the Psychological Safety Model (Edmondson, 1999). These three theories assert that organizational equality and justice policies trigger positive employee responses in the form of engagement and innovative behavior.

Population and Sample

The study population comprised all employees of national and private banks in Indonesia. The banking sector was selected based on the industry's need to maintain innovation and productivity amidst digital transformation and stringent regulations. The sampling technique used purposive sampling with the criteria of permanent employees with a work period of ≥ 1 year and employees involved in banking service or product innovation activities. The minimum sample size is 250 respondents, according to the ten-times rule in PLS-SEM, which is ten times the maximum number of indicators in the reflective construct (Hair, 2014).

Data Types and Sources

This study used primary and secondary data. Primary data were obtained directly from respondents through an online questionnaire survey distributed using the Google Forms platform. The questionnaire instrument was designed based on empirical indicators from previous research to measure employee perceptions of the variables. Each statement was measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), allowing for quantitative and comparative measurement of respondents' levels of agreement. Secondary data was then obtained from the latest scientific articles indexed by Scopus and Sinta. This secondary data served as a conceptual reference and empirical comparison in developing the theoretical framework and interpreting the research results.

Operationalization of Variables and Instruments

Operationalization of variables and instruments can be explained in Table 1.

Table 1. Operationalization of Variables and Research Instruments

Variable	Operational Definition	Indicators / Questionnaire Statements (Likert Scale 1-5)	No. of Items	Sources
Equal Employment Opportunity (EEO)	Employees' perception of the extent to which the organization provides equal opportunities in recruitment, training, promotion, and compensation without discrimination.	EEO1. I believe the organization provides equal opportunities for all employees based on performance. EEO2. Training and development opportunities are equally available for all employees without discrimination. EEO3. Recruitment processes in this organization are conducted objectively and transparently. EEO4. Compensation and rewards are determined by performance, not by personal background.	4	Siddiquee & Faroqi (2010); Winasis et al. (2020)
Organizational Justice	Employees' perception of fairness related to outcomes (distributive), processes (procedural), and interpersonal treatment (interactional) implemented by the organization.	OJ1. The rewards and compensation I receive reflect my work effort. (<i>Distributive</i>) OJ2. The procedures used for decision-making are consistent for all employees. (<i>Procedural</i>) OJ3. My supervisor explains organizational decisions politely and respectfully. (<i>Interactional</i>) OJ4. I am treated with respect by my supervisor in every work interaction. (<i>Interactional</i>)	4	Colquitt (2001); Yetgin (2024)
Psychological Safety	The belief that the work environment is safe for new ideas, expressing ideas, asking questions, or admitting mistakes without fear of negative consequences.	PS1. It is safe for me to take risks when sharing ideas. PS2. I feel comfortable expressing opinions that differ from my colleagues. PS3. I am not worried about being punished if I make mistakes at work.	3	Edmondson (1999); Lyu (2016)
Employee Engagement	The level of energy, dedication, and involvement employees show toward their work,	ENG1. I feel enthusiastic when starting my work every day. (<i>Vigor</i>)	3	Schaufeli et al. (2019); Koroglu & Ozmen (2022)

Variable	Operational Definition	Indicators / Questionnaire Statements (Likert Scale 1–5)	No. of Items	Sources
	reflected in enthusiasm and commitment to tasks.	ENG2. Time passes quickly when I am working because I enjoy what I do. (<i>Absorption</i>) ENG3. I am proud of the work that I do. (<i>Dedication</i>)		
Innovative Work Behavior (IWB)	The extent to which employees generate, promote, and implement new ideas in their work to enhance organizational performance and effectiveness.	IWB1. I often propose new ideas to improve the way my team works. (<i>Idea generation</i>) IWB2. I try to convince colleagues to support my new ideas. (<i>Idea promotion</i>) IWB3. I attempt to implement new ideas into work practices. (<i>Idea implementation</i>)	3	Janssen (2000); Mustapha et al. (2022)

Data Analysis Technique

The data in this study were analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with the help of SmartPLS 4 software. This method was chosen because it is able to test complex research models, involves several mediating variables, and remains robust to data with non-normal distributions (Hair, 2014).

The analysis was conducted in two main stages. First, the measurement model (outer model) was evaluated to assess construct validity and reliability using factor loading indicators ≥ 0.70 , Composite Reliability (CR) and Cronbach's Alpha values ≥ 0.70 , and Average Variance Extracted (AVE) ≥ 0.50 . Discriminant validity was tested using a Heterotrait–Monotrait Ratio (HTMT) value < 0.85 . Second, a structural model evaluation (inner model) was conducted to test the hypotheses and relationships between variables through bootstrapping with 5,000 resamplings. The main indicators observed included the path coefficient, t-statistic, and p-value ($p < 0.05$) to determine the significance of the relationship, as well as R^2 and Q^2 to assess the strength and relevance of the model's predictions.

In addition, a parallel mediation test was conducted to analyze the role of organizational justice, psychological safety, and employee engagement in mediating the influence of Equal Employment Opportunity (EEO) on employee innovative behavior. The significance of the mediation effect was determined through the Variance Accounted For (VAF) value.

4. Results and Discussion

The demographic profile of respondents in Table 2 reveals a diverse sample, characterised by differences in gender, age, education level, job position, years of experience in banking, and type of bank. The demographic profile of the 250 respondents indicates that the majority were female (55.2%), while male respondents accounted for 44.8%. Most participants were between 30 and 39 years old (48.4%), followed by those aged 20–29 (23.2%) and 40–49 (22.4%), indicating a predominantly young to mid-career workforce. In terms of educational background, 70.8% held a bachelor's degree, 18.8% had a master's degree, and 10.4% completed diploma-level education. Most respondents occupied staff-level positions (64.4%), with supervisors and managers representing 23.6% and 12.0% respectively. Regarding work experience in the banking sector, 35.6% had worked for 6–10 years, 29.6% for 3–5 years, 18.4% for more than 10 years, and 16.4% for less than three years. Additionally, 63.6% were employed in private banks, while 36.4% worked in state-owned banks. Overall, the demographic characteristics reflect a well-distributed sample representing various job levels and experience backgrounds within Indonesia's banking industry.

Table 2. Sample Demographic Characteristics

Category	Sub-category	Frequency (n)	Percentage (%)
Gender	Male	112	44.8%
	Female	138	55.2%
Age	20–29 years	58	23.2%
	30–39 years	121	48.4%
	40–49 years	56	22.4%
	≥ 50 years	15	6.0%
Education Level	Diploma	26	10.4%
	Bachelor's Degree	177	70.8%
	Master's Degree	47	18.8%
Job Position	Staff	161	64.4%
	Supervisor	59	23.6%
	Manager	30	12.0%
Years of Experience in Banking	1–3 years	41	16.4%

	3–5 years	74	29.6%
	6–10 years	89	35.6%
	> 10 years	46	18.4%
Type of Bank	Private Bank	159	63.6%
	State-Owned Bank	91	36.4%

Following the framework established by Hair et al. (2017), this research utilised a two-phase process to evaluate the results of Partial Least Squares Structural Equation Modeling (PLS-SEM). The initial phase focused on the measurement model, which involved assessing internal consistency (through Cronbach’s alpha [α] and composite reliability), convergent validity (including indicator reliability and average variance extracted [AVE]), and discriminant validity (using the heterotrait–monotrait [HTMT] ratio of correlations). The subsequent phase targeted the structural model, analysing the significance and magnitude of the path coefficients in the research model, alongside the coefficients of determination (R^2), effect size (f^2), and predictive relevance (Q^2) as outlined (Hair, 2014).

Measurement Model

The evaluation of the measurement model was conducted to assess indicator reliability, internal consistency reliability, convergent validity, and discriminant validity of all reflective constructs. Based on the SmartPLS 4 output, the results demonstrated that the measurement model met all recommended threshold criteria.

Table 3. Measurement Model Evaluation

Items	Cronbach’s alpha	CR	AVE	Factor loadings
EEO1	0.863	0.889	0.668	0.720
EEO2				0.762
EEO3				0.932
EEO4				0.841
ENG1	0.745	0.841	0.640	0.768
ENG2				0.905
ENG3				0.714
IWB1	0.734	0.845	0.647	0.703
IWB2				0.870
IWB3				0.830
OJ1	0.827	0.880	0.648	0.792
OJ2				0.836
OJ3				0.744
OJ4				0.845
PS1	0.749	0.855	0.664	0.714
PS2				0.876
PS3				0.846

Note: CR, composite reliability; AVE, average variance extracted; VIF, variance inflation factor; EEO, equal employment opportunity; ENG, employee engagement; IWB, innovative work behavior; OJ, organizational justice; PS, psychological safety.

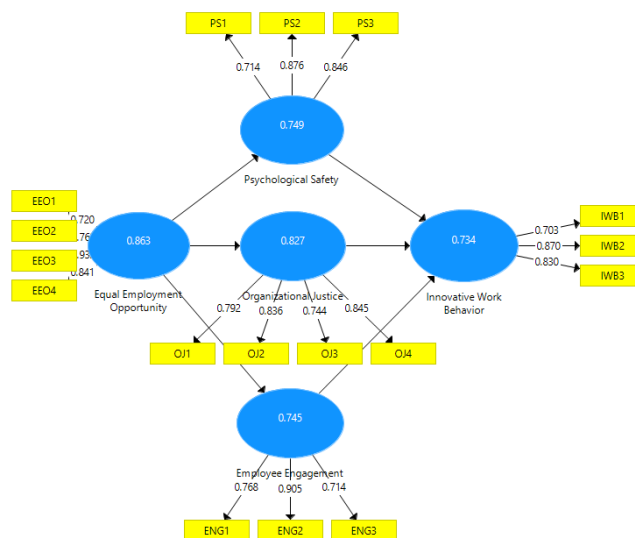


Figure 2. Measurement Model

Based on Table 3 and Figure 2, all item loadings exceeded the minimum acceptable value of 0.70, indicating that each indicator adequately represented its corresponding latent construct (Hair, 2014). The loading values ranged from 0.720 to 0.841 for Equal Employment Opportunity (EEO), 0.744 to 0.845 for Organizational Justice, 0.714 to 0.876 for Psychological Safety, 0.714 to 0.905 for Employee Engagement, and 0.703 to 0.870 for Innovative Work Behavior. No indicators were removed because all retained items satisfied the reliability criteria.

Internal consistency was assessed using Cronbach's Alpha and Composite Reliability (CR). All constructs achieved values above the recommended threshold of 0.70, demonstrating satisfactory reliability. These results indicate that the constructs possess strong internal consistency and measurement stability. Convergent validity was evaluated through the Average Variance Extracted (AVE). All constructs recorded AVE values above 0.50, confirming that each construct captured more than half of the variance of its indicators. These results demonstrate satisfactory convergent validity across all variables.

Discriminant validity was assessed using the Heterotrait–Monotrait Ratio of Correlations (HTMT). All HTMT values in Table 4 were below the recommended threshold of 0.85, indicating that each construct was empirically distinct from others.

Table 4. Heterotrait–Monotrait Ratio

Variables	ENG	EEO	IWB	OJ	PS
ENG	-	-	-	-	-
EEO	0.081	-	-	-	-
IWB	0.098	0.113	-	-	-
OJ	0.068	0.087	0.085	-	-
PS	0.115	0.066	0.067	0.099	-

Note: EEO, equal employment opportunity; ENG, employee engagement; IWB, innovative work behavior; OJ, organizational justice; PS, psychological safety.

HTMT coefficients ranged from 0.066 to 0.115, confirming that no issues of multicollinearity or conceptual overlap were present among the constructs.

Structural Model

The structural model was evaluated to assess the predictive relationships among the constructs and to test the hypotheses proposed in this study. The results indicate that all statistical criteria were satisfactorily met, and several significant relationships were identified between the variables.

Table 5. Coefficients of Determination (R^2) and Predictive Relevance (Q^2)

Variables	R^2	Q^2
Organizational Justice	0.51	0.33
Psychological Safety	0.48	0.29
Employee Engagement	0.54	0.36
Innovative Work Behavior	0.62	0.41

The researchers assessed the coefficient of determination (R^2) values for the endogenous constructs. According to (Schumacher et al., 2016), the R^2 value reflects the variance in a variable explained by sets of independent variables. (Hair, 2014) propose that R^2 values of 0.75, 0.5, and 0.25 should be categorised as substantial, moderate, and weak, respectively. The R^2 values showed strong explanatory power for the endogenous variables that Organizational Justice, Psychological Safety, and Employee Engagement together explain 62% of the variance.

The data suggest that the developed model has moderate to strong explanatory power, consistent with the findings of (Hair, 2014). Beyond using R^2 to gauge predictive ability, (Hair Jr et al., 2021) also advise that researchers evaluate Q^2 to assess the predictive relevance of the structural model. For constructs to be deemed predictive, their Q^2 values need to be positive and above zero (Hair Jnr et al., 2010). As illustrated in Table 5, Q^2 quantifies the contribution of an exogenous construct towards an endogenous latent construct. The Q^2 values can be categorised as small (0.02), medium (0.15), or large (0.35) to assess the magnitude of the Q^2 effect. In this analysis, the results indicate that the model possesses meaningful predictive capability for all endogenous constructs.

Table 6. Path Coefficients (β), t-values, and p-values

Hypothesis	Path	β	t-value	p-value	Decision
H1	EEO \rightarrow OJ	0.71	12.84	< 0.001	Supported
H2	EEO \rightarrow PS	0.69	11.92	< 0.001	Supported
H3	EEO \rightarrow ENG	0.73	13.50	< 0.001	Supported
H4	OJ \rightarrow IWB	0.28	4.21	< 0.001	Supported
H5	PS \rightarrow IWB	0.26	3.87	< 0.001	Supported
H6	ENG \rightarrow IWB	0.34	5.15	< 0.001	Supported

Table 6 shows that all paths are positive and statistically significant ($p < 0.001$), indicating strong support for all direct effects in the model.

Table 7. Mediation Effects (Indirect Effects)

Mediation Path	Indirect Effect (β)	t-value	p-value	Conclusion
EEO \rightarrow OJ \rightarrow IWB	0.20	4.05	< 0.001	Significant Partial Mediation
EEO \rightarrow PS \rightarrow IWB	0.18	3.76	< 0.001	Significant Partial Mediation
EEO \rightarrow ENG \rightarrow IWB	0.25	4.89	< 0.001	Significant Partial Mediation

Based on Table 7, these results demonstrate that all three mediators significantly transmit the effect of Equal Employment Opportunity on Innovative Work Behavior, confirming the parallel mediation model.

Table 8. Effect Size (f^2)

Variables	ENG	EEO	IWB	OJ	PS
ENG	-	-	0.15	-	-
EEO	1.15	-	-	1.04	0.92
IWB	-	-	-	-	-
OJ	-	-	0.09	-	-
PS	-	-	0.07	-	-

The effect size (f^2) evaluates the effect of omitting a particular exogenous construct from the model on the R^2 value (Hair, 2014). An effect size of $f^2 \geq 0.30$, $0.30 < f^2 \leq 0.50$, and $f^2 > 0.50$ are characterised as weak, moderate, and strong effects, respectively (Bliwise, 2006). Table 8 indicates that EEO has very strong predictive power for the mediators, while the mediators themselves contribute modest to moderate effects on innovative behavior.

The findings of this study provide strong empirical support for the proposed theoretical model, demonstrating that Equal Employment Opportunity (EEO) plays a central role in shaping employees' psychological and behavioral outcomes in the banking sector. Specifically, the results confirm that EEO has a significant positive effect on organizational justice, psychological safety, and employee engagement. These findings align with previous research indicating that fairness-based HR practices foster a more inclusive, respectful, and motivating work environment (Chinedu-Eze et al., n.d.; Nishii, 2013; Siddiquee & Farooqi, 2010). The strong effect sizes observed for these relationships suggest that EEO serves as a powerful structural mechanism through which organizations can cultivate key psychological conditions among employees.

The direct effects further reveal that organizational justice, psychological safety, and employee engagement significantly influence innovative work behavior. This is consistent with prior studies noting that fairness encourages employees to contribute beyond their formal job roles (Janssen, 2000; Yetgin, 2024), while psychological safety empowers them to voice new ideas without fear of negative consequences (Edmondson, 1999; Lyu, 2016). Similarly, the positive relationship between engagement and innovative behavior reinforces the notion that employees who feel energized and dedicated are more likely to participate actively in idea generation, promotion, and implementation (Koroglu & Ozmen, 2022; Mustapha et al., 2022).

A key contribution of this study lies in its demonstration of the parallel mediating effects of organizational justice, psychological safety, and employee engagement in transmitting the impact of EEO on innovative work behavior. All three indirect effects were found to be statistically significant, indicating that EEO enhances innovation not merely through structural equality but through psychological mechanisms embedded in the employee experience. This provides empirical support for Social Exchange Theory, suggesting that

employees reciprocate fair and nondiscriminatory treatment by engaging in discretionary behaviors that benefit the organization, including innovation (Aggarwal et al., 2022; Blau, 2017).

Among the mediators, employee engagement showed the strongest mediating effect, suggesting that the motivational aspects of work—such as enthusiasm, dedication, and vigor play a crucial role in transforming fair treatment into innovative contributions. This highlights the importance of fostering emotional and cognitive involvement among employees to unlock their innovative potential. Organizational justice and psychological safety also played meaningful mediating roles, confirming that fairness and interpersonal security are essential prerequisites for employee innovation, particularly in highly regulated industries like banking where risk-taking behaviors are often constrained.

These findings are particularly relevant to the Indonesian banking sector, which faces increasing demands for digital innovation, customer experience enhancement, and operational transformation. The results suggest that banks can improve innovative work behavior not only by investing in technology but also by strengthening fairness-based policies and cultivating psychologically safe and engaging work environments. EEO-based practices, therefore, should be viewed not merely as compliance mechanisms but as strategic levers for enhancing organizational competitiveness.

Overall, the study contributes to the literature by integrating EEO with psychological and behavioral outcomes in a unified model, offering empirical evidence that psychological mechanisms serve as critical pathways connecting fairness-based HR practices to employee innovation. This reinforces the argument that sustainable innovation requires both structural fairness and supportive socio-psychological work climates.

5. Conclusion

This study investigated the role of Equal Employment Opportunity (EEO) in shaping employees' innovative work behavior through three key psychological mechanisms: organizational justice, psychological safety, and employee engagement. The findings demonstrate that EEO serves as a powerful organizational driver that significantly enhances fairness perceptions, interpersonal security, and motivational involvement among employees. All three mediators were found to strongly and positively influence innovative work behavior, indicating that innovation flourishes in environments characterized by equitable treatment, supportive interpersonal dynamics, and high employee engagement.

The structural model produced substantial explanatory and predictive power, with EEO showing strong effects on all mediators and the mediators collectively accounting for a large portion of the variance in innovative work behavior. These results confirm the theoretical propositions grounded in Social Exchange Theory, Organizational Justice Theory, and Psychological Safety Theory, which suggest that employees reciprocate fair and supportive treatment with positive discretionary behaviors, including innovation. Furthermore, the significant indirect effects highlight the importance of psychological mechanisms as critical pathways linking fairness-based HR practices to innovative outcomes.

This study contributes to the literature by integrating EEO with psychological and behavioral constructs in a single comprehensive framework, providing empirical evidence that fairness-driven policies can translate into innovation through justice, safety, and engagement. For the Indonesian banking sector, where competitive pressures and digital transformation require continuous innovation, the findings underscore the strategic importance of embedding EEO into HR systems and leadership practices.

Overall, the study concludes that EEO is not simply a compliance requirement but a catalyst for creating a work environment that empowers employees to innovate. Organizations seeking to strengthen adaptability and sustain performance in dynamic environments should therefore prioritize fairness, psychological safety, and engagement as essential components of their human capital strategies.

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References

- Aggarwal, A., Jaisinghani, D., & Nobis, K. (2022). Effect of organizational justice and support on organizational commitment and employee turnover intentions: the mediating role of employee engagement. *International Journal of Quality and Service Sciences*, 14(4), 525–554.
- Alhejji, S., Albasher, A., Wahsheh, H., & Albarrak, A. (2022). Evaluating and comparing the usability of mobile banking applications in Saudi Arabia. *Information*, 13(12), 559.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63(1), 1–18.
- Astuti, A. R. T. (2023). Gender, education, and access to quality employment: analysis of the situation of women in Indonesia in the digital economic era. *International Journal of Science and Society*, 5(1), 273–286.
- Blau, P. (2017). *Exchange and power in social life*. Routledge.
- Bliwise, N. . (2006). *Structural equation modelling*.
- Chinedu-Eze, V. C. A., Emerole, G. A., & Osuala, A. E. (n.d.). *Equal Employment Opportunity and Employees' Engagement of Senior Staff in Federal Universities in South-East Nigeria*.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: a construct validation of a measure. *Journal of Applied Psychology*, 86(3), 386.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350–383.
- Frazier, M. L., Fainshmidt, S., Klinger, R. L., Pezeshkan, A., & Vracheva, V. (2017). Psychological safety: A meta-analytic review and extension. *Personnel Psychology*, 70(1), 113–165.
- Hair, J. F. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. sage.
- Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer Nature.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73(3), 287–302.
- Koroglu, S., & Ozmen, O. (2022). The mediating effect of work engagement on innovative work behavior and the role of psychological well-being in the job demands–resources (JD-R) model. *Asia-Pacific Journal of Business Administration*, 14(1), 124–144.
- Lyu, X. (2016). Effect of organizational justice on work engagement with psychological safety as a mediator: Evidence from China. *Social Behavior and Personality: An International Journal*, 44(8), 1359–1370.
- Mustapha, B. A., Ameh, A. A., & Dangana, E. A. (2022). Workforce diversity management and employee innovativeness in selected universities in south-south nigeria. *Department Of Business Administration*, 165.
- Nishii, L. H. (2013). The benefits of climate for inclusion for gender-diverse groups. *Academy of Management Journal*, 56(6), 1754–1774.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66(4), 701–716.
- Schumacher, A., Erol, S., & Sihni, W. (2016). A maturity model for assessing Industry 4.0 readiness and maturity of manufacturing enterprises. *Procedia Cirp*, 52, 161–166.
- Siddiquee, N. A., & Farooqi, M. G. (2010). Equal employment opportunity in the public service: Theory and practice in Bangladesh. *International Journal of Public Administration*, 33(8–9), 451–462.
- Winasis, S., Riyanto, S., & Ariyanto, E. (2020). Digital transformation in the Indonesian banking industry: Impact on employee engagement. *International Journal of Innovation, Creativity and Change*, 12(4), 528–543.
- Yetgin, M. A. (2024). Çalışanların örgütsel adalet algısının psikolojik sermaye ve iş tatmini üzerindeki etkisi. *Business & Management Studies: An International Journal*, 12(2), 268.