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Navigating Bureaucratic Challenges: Investigating the Interplay of Psychological Factors and Positive Outcomes in Public Sector Performance

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Abstract

This study investigates the psychological mechanisms underlying public sector employees' behaviour by examining the moderating role of bureaucratic leadership (BL) in the relationship between public service motivation (PSM) and work engagement (WE), with WE acting as both a mediator and a predictor of affective organisational commitment (AOC) and innovative work behaviour (IWB). Using a quantitative approach, survey data were collected from 2,853 employees of Indonesian State-Owned Enterprises. We used Partial Least Squares Structural Equation Modelling (PLS-SEM) to examine the direct effects and the mediating effects of WE, and the moderating effect of BL. The results emphasise that PSM has a strong positive effect on WE (β = 0.659, P < 0.001) but does not directly influence AOC (β = 0.023, P > 0.05) or IWB (β = 0.027, P > 0.05). WE fully mediates the relationship between PSM and both AOC (β = 0.412, P < 0.001) and IWB (β =0.344, P < 0.001). BL shows significant direct effects on WE (β = 0.169, P < 0.001), AOC (β = 0.186, P < 0.001), and IWB (β = 0.522, P < 0.001). In addition, BL moderates the relationship between PSM and WE at the 10 per cent significance level (β = 0.033, P < 0.10), indicating a context-dependent enabling role. This study extends the JD–R model in the public-sector context by highlighting the central role of WE.

Keywords:
bureaucratic leadership; innovative work behaviour; public service motivation; public sector; work engagement

Introduction

Work engagement (WE) is a crucial factor in public organisations, as it can have an impact on the productivity of employees, especially when political changes and various national crises happen (World Bank, 2020). Public employees are compelled to utilise their daily job resources to maintain engagement and achieve high performance due to their sense of vocation (Bakker, 2015). A previous meta-analysis study by Borst et al. (2019) shows that there is a strong relationship between WE and other job-related attitudes among public sector employees compared to those in the private sector. WE is the most reliable indicator of performance results (Christian et al., 2011). As such, it is anticipated that high-quality service, client satisfaction, and good service delivery are all positively correlated with WE (Vigoda-Gadot et al., 2013). Therefore, WE could be a solution to performance enhancement, the primary issue facing the public and semi-public sectors today (Vigoda-Gadot et al., 2013).

In this study, the empirical locus is employees of Indonesian State-Owned Enterprises (SOEs), which occupy a unique position in the public sector. SOEs are organisations formed by the government

to carry out their mandate in providing public services, hence providing value to the community. At the same time, SOEs must remain obedient to the bureaucracy and pressure to achieve expected performance, which makes their challenges even tougher. This dual role creates a distinctive environment to examine the interaction between public service motivation (PSM), WE, and leadership practices operating within bureaucratic systems (particularly bureaucratic leadership) in shaping employees' affective organisational commitment and innovative work behaviour (IWB). By analysing this context, this study not only replicates the Job Demands–Resources (JD-R) model that has been widely researched by scientists from all over the world, but also expands the context of JD-R and PSM theory into a setting where ideal public service and bureaucratic leadership (BL) play a joint role in a highly complex organisational environment.

An important implication of this research is also its theoretical and empirical contribution to the bureaucratic reform agenda that has been going on since the era of President Soesilo Bambang Yudhoyono, which now has to follow the law amendment that turns SOEs into Danantara. While policymakers demand higher productivity, employee engagement, and sustainable innovation, empirical evidence on the dynamics of PSM, bureaucratic leadership, and positive job outcomes in the Indonesian SOE context remains limited. Thus, this study provides both theoretical and practical insights that enrich the literature by contextualising PSM and WE in a developing country's bureaucratic setting and, at the same time, offers evidence-based recommendations for strengthening BL practices and fostering organisational environments that enable employees' intrinsic motivation to translate into commitment and innovation.

Research conducted over the past twenty years indicates a positive correlation between PSM and affective organisational commitment, hereinafter referred to as AOC (Crewson, 1997). AOC refers to the degree of strong interest, engagement, and positive emotions an employee has toward their organisation (Allen & Meyer, 1990). According to Mowday et al. (2013), antecedents of AOC can be classified into four categories, namely personal, structural, job-related, and work experience. There is an extensive study on the relationship between work experience and AOC. According to Herzberg's (1966) research, work experience variables fall into two categories: providing employees with physical and psychological comfort and contributing to their sense of competence.

Meanwhile, innovative work behaviour (IWB) is crucial for business success and survival in today's knowledge-based world. IWB denotes individual acts aimed at generating, developing, and executing novel ideas or creative practices inside the workplace (Scott & Bruce, 1994). Engagement is crucial for fostering IWB (Salanova et al.,2005). Innovation and engagement are mutually beneficial. According to a study involving 180 respondents from Pakistan's manufacturing sector (Ghani et al., 2023), IWB can be fostered by engaged employees who are more willing to act. Earlier research (Afsar et al., 2021; Elamin et al., 2024; Ghani et al., 2023; Kim & Park, 2017; Vithayaporn & Ashton, 2019) also found that highly engaged workers exhibit higher IWB at work.

To understand how job demands and resources affect WE, we need empirical research to support the hypothesis (Cooke et al., 2019). This study highlights the interplay between bureaucratic leadership (BL) as a contextual job resource and PSM as a personal resource, as well as their effects on WE, AOC, and IWB. Within the JD-R framework, Schaufeli and Bakker (2010) argue that WE functions as a mediating mechanism through which job resources (e.g., PSM and leadership-related resources) translate into positive outcomes

such as commitment and innovation. Based on empirical reviews that come from various theories that mention the role of WE as a mediator in various studies, the hypothesis that we propose regarding the role of WE as a mediator variable is in line with the motivational model. Based on the JD-R model (Bakker, 2015), PSM in this case is part of personal resources that can increase WE in employees in the public sector.

PSM is defined as a general altruistic urge to serve the interests of a community, state, nation, or humanity (Rainey & Steinbauer, 1999). Employees highly motivated to provide public service are more compassionate, willing to make sacrifices, and steadfastly dedicated to the public interest. WE has been linked to similar organisational outcomes (e.g., organisational commitment, job performance, and organisational citizenship behaviours). Schaufeli et al. (2010) define WE as a feeling of positivity and fulfilment about their work, which is characterised by a state of mind, vigour, dedication, and absorption has garnered attention as a critical driver of employee performance. WE denotes an employee's emotional attachment to their role and organisation, with several studies correlating it to heightened productivity, job satisfaction, and overall success. (Bakker & Demerouti, 2008). Their positive frame of mind helps engaged employees to display outstanding performance (Bakker, 2015).

To date, research related to the public sector, specifically on the topic of WE, is limited. However, it has been found that the role of WE is for the organisation itself (Vigoda-Gadot et al., 2013). According to Fletcher et al. (2020), there are still no research results in the form of a meta-analysis that specifically discuss the role of WE in the public sector. As a result, the understanding of this area still needs to be improved. In their review, Fletcher et al. (2020) highlight that a sectoral framework refers to analysing engagement within the specific institutional and cultural context of a given sector, such as the public, private, or non-profit domain, since the drivers, constraints, and outcomes of engagement may differ substantially across these organisational environments. As a result, more research in this area still needs to be conducted.

Compared to employees in the private sector, those in SOEs are more likely to be drawn to intrinsic rewards and less likely to be drawn to extrinsic ones (Park & Word, 2012). The results of the research from Perry et al. (2008) show that employees with high PSM show prosocial motivations and provide benefits for public services that can be felt directly by the community. This is in line with research from Brewer and Selden (2000), showing that people with high PSM tend to perform better and have a more positive tendency to report inappropriate work behaviour. Individuals with high PSM may also exhibit superior performance compared to those with lower PSM and are more inclined to participate in whistle-blowing to safeguard the public interest (Brewer & Selden, 2000). Studies have also demonstrated a significant relationship between PSM and job satisfaction (Wright & Christensen, 2017) as well as AOC (Crewson, 1997). Employees with a high PSM character usually show great concern for their own profession, as well as a strong commitment and sense of responsibility to what is needed by the wider community, which is their customers (Brewer & Selden, 2010).

Although there have been many studies that have focused on the aspects of BL and WE in public administration policy and the role of BL as a moderator variable that can strengthen engagement among employees in the public sector, there are still not many empirical facts that show the dynamics of the role of BL as a moderator that strengthens the role of PSM towards WE. Most research focuses more on the role of BL on the characteristics of public organisations in the sector. Meanwhile, the

role of leadership practices in bureaucratic structures and how this role mechanism affects the motivation of SOE employees has not been explored much. Addressing this gap is critical for SOEs, where bureaucracy frequently dampens morale. Through the role of BL, the motivation to serve is reinforced, sparking a sense of engagement and loyalty. This psychological commitment then serves as a catalyst for IWB.

This study adopts the JD–R model from Bakker and Demerouti (2007), where the role of WE is a key variable in the psychological mechanism that mediates the role of PSM on AOC and IWB. In this content, BL serves as the job resources factor in the JD-R model, and is positioned as a moderator variable. This is a novelty because in the JD-R model, the leadership variable is positioned as a predictor without considering that its role is not only an antecedent but can function as a moderator, as shown in research by Arfat et al. (2017). However, given that in various public studies conducted by Bakker (2015) and also from the JD-R model itself, this leadership role must be seen contextually. When leadership practices in a rigid bureaucratic structure can be translated transparently and ethically, employees can be motivated to carry out their role as public servants through the role of WE, as a mediator variable. This psychological mechanism can show how each variable, namely PSM, BL, and WE, interacts to produce positive outcomes in the form of AOC and IWB.

Methods

Study Design

This study uses an explanatory quantitative approach with a cross-sectional design to see how the psychological mechanisms between PSM (amplified by BL and mediated by WE) can be predictors of AOC and IWB variables. The interaction between variables adopts the model from JD-R developed by Schaufeli and Bakker (2010), applied to the context of SOEs in Indonesia.

Framework Conceptualization

According to Bakker (2015), PSM constitutes a key psychological resource that is expected to promote high levels of WE (Lavigna, 2015). Many individuals enter the public sector driven by a strong commitment to governmental and societal goals (Lavigna, 2013). Accordingly, PSM represents a higher-level individual characteristic that is relatively stable and changes only gradually over time (Bakker, 2015). This motivational factor supports employees in the public sector to carry out their responsibilities and achieve the expected performance with the character of vigour, dedication, and absorption, where these characteristics form the aspect of WE. Bright (2007) further explained various studies that show that employees' perception of organisational support is a context that needs to be considered, which allows the role of PSM to be more optimal in producing engaged behaviour and subsequently producing positive performance through the formation of AOC and IWB.

Given the context of organisations such as SOEs that follow strict bureaucracy and regulations, leadership is crucial to bridge the gap between a strict bureaucracy and high performance, where employees must adhere to a hierarchy of authority, yet they are required to act quickly. This highlights the need for bureaucratic leadership, where a leader transforms administrative obstacles into positive influences. By ensuring procedures are clear, consistent, and predictable, the leader reframes how subordinates perceive and respond to the bureaucracy (Ohemeng et al., 2020). The figure of a bureaucratic leader will play an important role in the contextual factors of the organisation that interact with motivational factors such as PSM, which can then strengthen the role of PSM to give rise to WE. If SOEs employees perceive their leaders as fair, accountable, and consistent in implementing regulations and

bureaucracy, employees are likely to align their commitments in public service in accordance with the expectations of the organisation through high WE.

Previous research in the bureaucratic context has shown that administrative burdens and procedural rigidity are factors that can make employees disengage with the organisation. However, a leadership study by Ohemeng et al. (2020) shows that the influence of bureaucratic structure does not have the same effect on employees, as it depends substantively on the role of the leader in embodying authority and formal work standards. Leadership practices in the context of a bureaucratic system can strengthen or even have a negative effect on employees' perception of fair bureaucratic regulations and procedures, as well as the clarity of the role of each employee. Empirical data indicate that a leader who is able to align bureaucratic norms with the demands of professionalism and high-performance standards can strengthen feelings of work stability and a sense of psychological security, both of which can strengthen antecedent variables to WE, especially in SOEs, which have very strict bureaucratic rules.

The Role of Bureaucratic Leadership as a Moderating Variable

In a bureaucratic context where convoluted structures and dense regulations often hinder innovation, it is crucial for leadership to provide clear direction on the SOPs that must be followed. Often, bureaucracy that is too long can reduce employee motivation to be able to provide the best service for its customers, which, in the case of SOEs, is the general public. A leader who can create transparency in the implementation of administrative rules, known as BL, allows employees in the public sector to be more flexible in making decisions in their daily work (Ohemeng et al., 2020). It will create a sense of fairness and clarity towards bureaucratic regulations.

Viewed from the perspective of JD-R, Leadership roles are typically categorized as job resources that influence and inspire employees by providing psychological experiences that encourage peak performance (Schaufeli & Bakker, 2010). This can strengthen employee motivation to be able to carry out organisational demands, that is, to provide the best service to the wider community. The role of BLs in the public sector is to provide clarity of ambiguous roles, improve fair procedures, and provide predictable frameworks. With this BL role, employees can clearly see their role and how to follow clear bureaucratic regulations. Various studies show that leadership that is aligned with bureaucratic norms can strengthen the psychological sense of security of employees through clear roles, so that it can be an antecedent to WE (Schaufeli & Salanova, 2004; Ohemeng et al., 2020). In addition, PSM is a motivational factor needed by SOE employees to be able to perform their duties (Bakker, 2015).

Recent research on leadership shows that there is a relationship between individual motivation and WE, which is influenced by organisational culture and the context of leadership, including the role of BL in public organisations. A study from a developing country, Pakistan, related to the role of BL as a moderator variable for WE shows that a certain leadership style, namely BL in organisations that is highly bureaucratic, can give rise to WE, which is consistent with the expectations of organisations with a formal structure (Arfat et al., 2017). While this study does not explicitly map the dynamics between PSM and WE with BL as a moderator, it provides a theoretical foundation for doing so. By examining how BL strengthens individual motivation and noting empirical evidence of its moderating effect on WE within strict bureaucracies, BL can be positioned as a key moderator in this relationship (Arfat et al., 2017)

Since there has been no research that directly examines the interaction between PSM,

BL and WE, the role of the BL variable needs to be seen contextually and not universally generalised. The role of BL, as explained both from the research of Ohemeng et al., (2020) and the research of Arfat et al. (2017), is positioned as a variable that can strengthen individual motivation. In this case, PSM can identify employees who are engaged with the organisation so that they can produce positive work results in the form of AOC and IWB. Figure 1 shown the proposed model formulation, following the JD-R model by Bakker and Demerouti (2007), expanded by Borst (2019) in the public sector.

Hypothesis Model

The conceptual framework in Figure 1 emphasises the important role of PSM as an intrinsic motivational factor in employees working in the public sector. Like the JD-R model in public administration research, this model proposes that the higher the PSM of an employee, the higher the WE, which can strengthen AOC and promote IWB in providing public services (H1)

This model also highlights the important role of BL in encouraging the role of PSM to improve WE in employees. With clear and transparent procedures related to regulations that form work accountability and a strict line of command, a positive influence can be asserted on WE, AOC, and IWB (H2). BL fosters administrative stability, which in turn drives employee engagement. This engagement builds loyalty through organisational commitment, while clear regulations provide the necessary framework for employees to innovate.

Furthermore, the conceptual model also describes WE as a key variable that mediates the role of PSM to AOC (H3), where an employee in the public sector with high motivation in serving the public will develop a deeper emotional attachment towards the organisation if they feel emotionally and consensually engaged in their work. This model also shows the role of WE in mediating the influence between PSM and IWB (H4), which indicates that employees with a motivation in serving customers will translate their personal values into innovative work practices, especially if they have a high level of engagement with the organisation.

Finally, this research model also displays the role of BL as a variable that moderates the pathway between PSM and WE (H5). This role of BL reflects the important role of BL in strengthening individual motivation so that they can feel an emotional attachment to the organisation and thus improve WE. WE levels depend on the intensity of BL in motivating

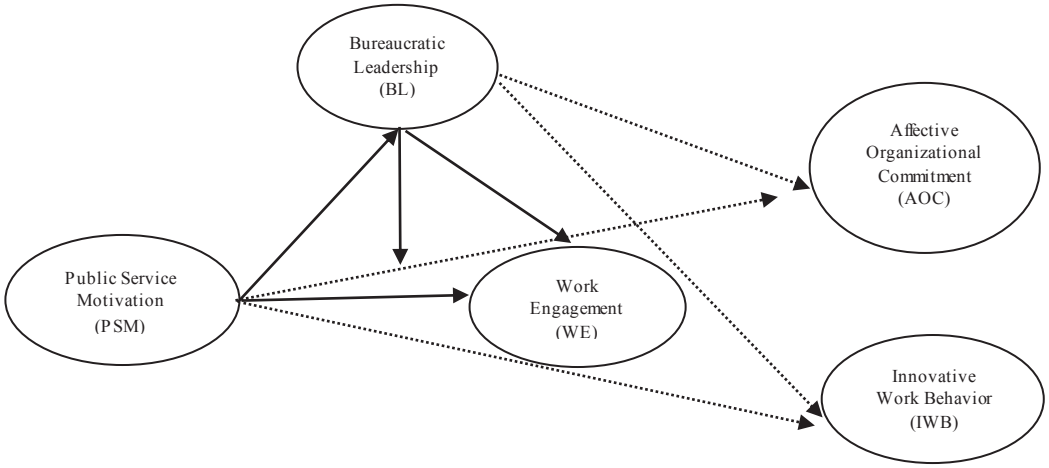

Figure 1. Conceptual Model
Source: Adapted from JD-R Model

public sector staff. Specifically, a leader's ability to translate complex bureaucratic regulations into transparent processes directly correlates with engagement; conversely, a lack of proficiency in navigating these bureaucratic aspects tends to diminish employee engagement with the organisation.

Participants

Respondents in this study were selected based on criteria, among others, SOE employees who have worked for more than 1 year. The sample selection uses a non-probability design with convenience techniques, namely, willingness and availability. The researcher collaborated with HRD from SOEs and asked them to distribute an online questionnaire to SOE employees. A total of 2,853 employees returned a questionnaire where the target respondents were calculated using G-Power software with inputs for a statistical test multiple regression: Fixed model, single regression coefficient, two-tailed, effect size f^2 0.02, error prob. (α=0.05), power (1-β error prob = 0.95) and the number of predictors, as many as three predictors. It was found that the minimum recommended sample size is 652 respondents, so that the existing respondents have exceeded the minimum requirements to be able to conduct SEM tests using the PLS SEM principle.

Measures

The BL variable was measured using a scale of 5 items adapted from leadership research in the public sector from Ohemeng et al. (2020). A high score reflects a strong perception of BL practices, which provide the clarity and resources necessary to navigate government regulations. By aligning these mandates with the specific business character of their SOE, leaders enable employees to demonstrate accountable and effective work behaviours. PSM were measured using a scale of 10 items adapted from Perry (1996), where high scores reflect strong motivation in serving public needs. WE was measured using 17 items from the Utrecht Work Engagement Scale (UWES) developed by Schaufeli et al. (2002), which consisted of three dimensions, namely vigour, dedication, and absorption, where a high score reflected a high level of engagement with work. AOC is measured using a scale developed by Allen and Meyer (1990), which consists of four items where a high score reflects a strong emotional bond to the organisation that is manifested in employee loyalty. IWB is measured using a scale adapted from Kmieciak (2020), which consists of five items containing how a person can come up with innovative ideas, realise, and promote these ideas, where the higher the score, the greater the innovative behaviour.

Data Analysis

The analysis technique used to test the hypothesis is Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS 4 (Hair et al., 2022). The PLS-SEM technique is considered most suitable for data that does not meet parametric assumptions, where the data obtained is not robust. PLS-SEM allows for bootstrapping in the event of a violation of the assumption of normality. Given that the data obtained is very large, it is very difficult to meet the assumption of normality. In addition, the reason for choosing PLS-SEM is that this technique allows for exploratory research to build a new theoretical model (Hair et al., 2022), unlike CB-SEM, which is confirmatory in nature. This study proposes an alternative perspective: leadership roles do more than serve as direct antecedents to work engagement and positive outcomes, as typically formulated in the JD-R model by Bakker and Demerouti (2007). This study not only sees the role of BL as a predictor but also as a moderator. For this reason, the PLS-SEM technique is more appropriate to choose than CB-SEM

The data analysis procedure is divided into two stages, including the evaluation stage of the measurement model or outer model and

the stage of analysis of the structural model or inner model (Gerbing & Andersen, 1998; Hair et al., 2022). In the measurement model assessment, construct validity with the multi-method technique is used, namely through convergent validity, discriminant validity, and construct reliability. Convergent validity is measured by looking at the outer loading indicator, where the item is declared valid if the outer loading index is >0.5. Divergent validity is measured by looking at the Average Variance Extracted (AVE) index and construct reliability. The measurement is considered valid if the AVE value is greater than 0.5 and the reliability construct is more than 0.7, but if the AVE is between 0.3 and 0.5, it is still acceptable as long as the reliability construct is more than 0.9 (Chin, 1998)

In the structural model testing stage, the robustness and explanatory power level of the model are examined to determine whether the model fitness (Chin, 1998; Hair et al., 2022). Model fit is measured through the Standardised Root Mean Square Residual (SRMR) index, where a value of less than 0.10 indicates that the model is acceptable (fit), while a value below 0.08 indicates a good fit model (Hu & Bentler, 1999). Predictive indexes are also tested by looking at the Q2 criterion (Stone-Geisser), where a value greater than zero indicates that all predictive variables function well to predict consequential variables (Geisser, 1974; Stone, 1974; Chin, 1998; Hair et al., 2022). The significance of the level that is the reference for the hypothesis test is at the significance level of 5% (α = 0.05), where the accepted t-statistic value for the two-tailed assumption is 1.96 (Vincenzo, 2016). However, considering that this study is exploratory by building a new theoretical model, namely placing the BL variable not only as a predictor but also as a moderator, the significance level of 10% (α = 0.10) is still acceptable for research that is developing a theory (Gerbing & Andersen, 1998).

Results

Structural Model Measurement

The results section provides a report on the results of the data analysis, which is divided into two parts. The first part analyses the assessment results for the measurement model, including convergent and discriminant validity assessments. In addition, this section looks at the reliability index of the measuring instrument. If all measurement models have met the requirements of psychometric properties, then they can move on to the next stage by testing at the structural equation modelling (SEM) level to test hypotheses.

Convergent validity is seen from the outer loading value in Figure 1, while the value of discriminant validity and the reliability of the measuring instruments can be seen in Table 1, namely in the AVE and composite reliability values. In addition, Table 1 also presents the assessment results for the fitness model that can be inferred from the Standardised Root Mean Square Residual (SRMR) and Predictive Relevance (Q^2) values. The measurement model is declared valid if the outer loading and AVE >0.5, reliability >0.7, while the hypothesis test can be carried out if the model is declared fit through SRMR <0.1 and Q^2 >0.5 values.

In Figure 1, it can be seen that the entire outer loading index is above 0.5, so it can be said that the measurement instruments used in this study are valid convergently. Similarly, the discriminant validity can be seen from the AVE value above 0.5 (PSM=0.762, BL=0.756, WE=0.628, AOC=0.826, and IWB=0.773) so that all instruments are declared to exceed the required threshold. The composite value of overall reliability is also above 0.7. It can be concluded that all measurement instruments have all the psychometric requirements for the measurement model, so that the structural model testing can be conducted. Meanwhile, the internal value consistency is evaluated by looking at Cronbach's alpha index. All measuring instruments showed good internal

Table 1.
Measurement Model Analysis

Variables	SRMR		Q^2	R^2	Cronbach's Alpha	Composite Reliability	(AVE)
	Saturated Model	Estimated Model					
Model Fit	0,064	0,066	-	-	-	-	-
PSM		-	-	-	0,965	0,970	0,762
BL		-	-	-	0,931	0,939	0,756
WE		-	0,344	0,552	0,962	0,966	0,628
AC		-	0,460	0,561	0,919	0,950	0,826
IWB		-	0,257	0,336	0,926	0,944	0,773

Source: Primary Data

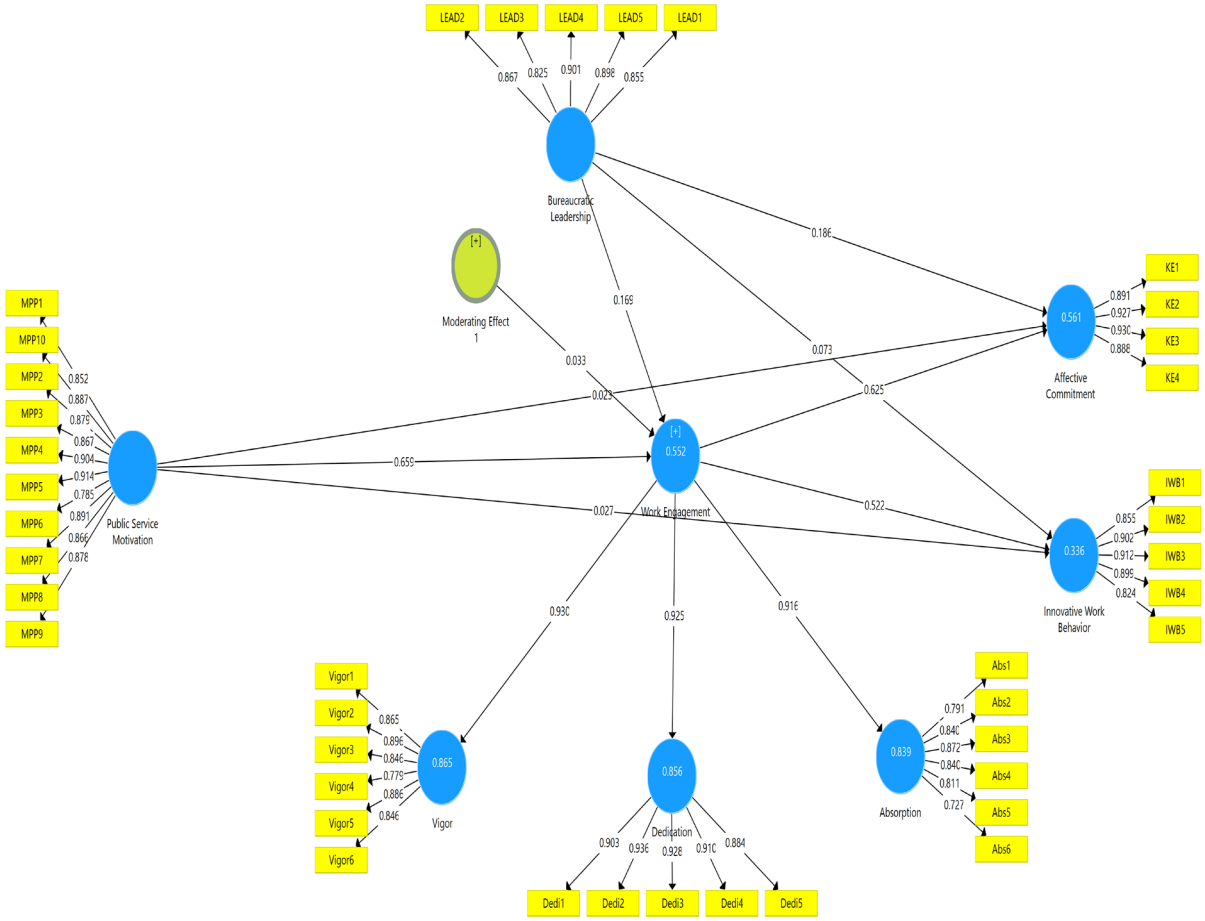

Figure 2. Outer Loading
Source: Primary Data

consistency (PSM=0.965, BL=0.931, WE=0.962, AOC=0.919, and IWB=0.926). This indicates that the entire construct has been measured by a reliable measurement instrument.

Before conducting a hypothesis test, it must first be seen whether the model is fit to be able to proceed to the next stage. The fit model can be seen from the Standardised Root Mean Square Residual (SRMR) index and the Stone–Geisser's Q^2 statistic. In addition, the efficiency of the R2 determination is important to see the explanatory power of the model. The SRMR value is 0.06, and the SRMR value for saturated models is 0.064. This shows that the two SRMR values are below the recommended threshold of 0.08, which indicates that the

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constructed structural model is in the perfect fit category. Furthermore, based on Table 1, the Q2 values each show a number greater than zero (WE=0.344, AOC=0.460, and IWB=0.257). This shows that the hypothesis model explains well the role of each endogenous construct based on the predictive relevance. These findings suggest that the hypothetical model can predict the WE, AOC, and IWB variables accurately.

After looking at the SRMR and Q2 indices, the explanatory power of the model was evaluated through the determinant coefficient, which can be seen in the R2 value. Based on the test results, it was found that the R2 value for WE and AOC tended to be high (WE=0.552, AOC=0.561) while the IWB value was moderate (IWB=0.336). These findings suggest that the proposed hypothesis model framework has good explanatory power for the public sector context.

Overall, the findings indicate that both the measurement model and the structural model meet the recommended evaluation standards. The SRMR values fall within acceptable limits, reflecting a satisfactory model fit, while the Q^2 and R^2 results demonstrate that Public Service Motivation (PSM) and Bureaucratic Leadership (BL) exhibit sufficient predictive relevance and explanatory capacity for Work Engagement (WE), Affective Organisational Commitment (AOC), and Innovative Work Behaviour (IWB). These results establish a strong empirical basis for proceeding with the hypothesis testing and for interpreting the structural relationships in the subsequent analysis. Table 2 reports the outcomes of the hypothesis tests based on the significance of the path coefficients.

Hypothesis Testing Results

Table 2 shows that the direct influence of PSM on AOC is not statistically significant, where the p-value exceeds the required threshold of <0.05 ($\beta = 0.023$, $p = 0.270$), as well as for the direct effect from PSM on IWB ($\beta = 0.027$, $p = 0.310$). This coefficient indicates a value higher than the 5% significance limit, so that it can be stated that Hypothesis 1 is not supported by the data. However, if the influence of PSM on AOC and IWB is mediated by WE, then it appears that there is a significant influence of PSM on AOC (PSM on AOC via WE, $\beta = 0.412$, $P< 0.001$), as well as between PSM and IWB (PSM on IWB via WE, $\beta = 0.344$, $P < 0.001$). From these results, it can be seen that, without the role of WE mediation, there is no significant influence of PSM on AOC and

Table 2.
Path Coefficients Significant Index

Pathway	Mean	STDEV	Original sample	t-stat	p-value
PSM -> AC	0,023	0,023	0,023	1,016	**0,270**
PSM -> IWB	0,026	0,025	0,027	1,104	**0,310**
PSM -> WE	0,659	0,017	0,659	38,487	**0,000**
RT_Mod -> WE	0,032	0,018	0,033	1,830	**0,068**
BL -> AC	0,186	0,018	0,186	10,175	**0,000**
BL -> IWB	0,523	0,025	0,522	20,854	**0,000**
BL -> WE	0,169	0,019	0,169	8,963	**0,000**
WE -> AC	0,625	0,023	0,625	27,263	**0,000**
WE -> IWB	0,523	0,025	0,522	20,854	**0,000**
PSM -> WE -> AC	0,412	0,019	0,412	21,819	**0,000**
BL -> WE -> AC	0,106	0,012	0,106	8,767	**0,000**
PSM -> WE -> IWB	0,344	0,020	0,344	17,434	**0,000**
BL -> WE -> IWB	0,088	0,010	0,088	8,431	**0,000**

Note: The original sample mean = the regression coefficients (β) at a significance level of 5% (α = 0.05), the t-statistic exceeded 1.96.

Source: Primary Data

IWB. However, with the existence of the WE variable as a mediator, the direct influence that was originally insignificant then became significant in the indirect influence test. It can be concluded that WE plays a full mediator between PSM and AOC and IWB. Similarly, for the variables BL to AOC ($\beta = 0.106$, $p < 0.001$) and BL to IWB ($\beta = 0.088$, $p < 0.001$), it can be seen that WE plays the role of a mediator variable in both pathways. It can be concluded that WE plays a central role in the interplay of psychological mechanisms, where the role of PSM and BL is significant in producing positive outcomes if employees engage with the organisation

Furthermore, it was found that there was a significant influence on the direct effect, PSM to WE's pathway ($\beta = 0.659$, $P < 0.001$) as well as for the path between WE to AOC ($\beta = 0.625$, $p < 0.001$) and WE to IWB ($\beta = 0.522$, $p < 0.001$), showing significant results. This indicates that the role of WE as a full mediator between PSM and AOC and PSM to IWB can be explained through the significance of the direct influence between WE and AOC and WE to IWB. Thus, it can be stated that Hypotheses 2 and 3 are supported by the data. In line with the role of WE directly to AOC and IWB, statistical processing data showed that BL had a significant direct influence on all endogenous variables, namely WE, AOC, and IWB (WE; $\beta = 0.169$, $p < 0.001$, AOC; $\beta = 0.186$, $p < 0.001$), and IWB; $\beta = 0.522$, $p < 0.001$). Based on these results, it can be concluded that Hypothesis 4 is supported by the data, so that Ha is accepted, and Ho is rejected. These results imply that BL plays an important role in shaping positive attitudes and behaviours in employees in the public sector.

Regarding the role of BL as a moderator variable between the PSM and WE map, the results show a significance level of 10% ($\beta = 0.033$, $p = 0.068$), meaning that Hypothesis 5 is supported by the data. As stated in the methods section, according to Gerbing and Adersen (1997), in research that is a theoretical development in the social field, significance with a p-value<0.10 is still acceptable. However, it is important to note that the data is not significant at a conventional level, which is at the 5%, so this result needs to be interpreted with cautions to avoid an overclaim.

Discussion

The findings of this study can provide a novelty from the perspective of the conventional JD-R model, where the role of BL is tested not only as a predictor but also as a modifier. The results of statistical analysis show that PSM provides a significant positive influence, which can directly affect positive outcomes, in this case, on AOC and IWB. This finding is in line with the model that is the reference for this study, namely the JD-R model (Bakker & Demerouti, 2007), which states that PSM, as a variable that forms personal resources, can encourage engaged work behaviour. These findings are also relevant to several previous studies of (Crewson, 1997; Wright & Christensen, 2017) showing that there is a positive influence between PSM and AOC. However, this role needs to be understood in the context of the interaction between PSM and WA to produce an indirect influence on AOC. Without engagement from employees, the motivational factors of employees are not enough to foster feelings of loyalty and emotional attachment to the organisation. Before building AOC, one must have the character of vigour, dedication, and absorption (Schaufeli et al., 2002). This is also consistent with the opinion of Allen and Meyer (1990), stating that emotional attachment to employees will only be strengthened if employees feel they can contribute to work that they think can be meaningful. This meaning can arise if cognitively employees feel that what they do is meaningful for themselves and others.

In line with the direct influence between PSM and AOC, PSM also has no direct influence

on IWB. PSM will only have an effect if employees feel engaged with the organisation. This research seems to be in contrast to several studies that state a direct relationship with IWB (Afsar et al., 2021; Kim & Park, 2017). It should also be noted that, according to Kmieciak (2020), innovation cannot necessarily be present only because of motivational factors, but depends on several other variables, such as the leadership role and the support of resources from the organisation that make it possible to innovate (Kwon & Kim, 2020). An interesting finding is that it turns out that WE also perfectly mediates the indirect influence between PSM and WE. This further strengthens the premise that it is important to understand the psychological mechanisms if an organisation wants to encourage its employees to display behaviours that can support innovation.

An interesting finding from this study is the role of BL in shaping positive outcomes. The conventional JD-R model by Bakker and Demerouti (2007), replicated by various scientists, has shown that the role of leadership is important as a predictor of WE, which can subsequently form positive outcomes. This was also found in this study, where the leadership context was made specific to BL in accordance with the character of SOEs that must hold bureaucratic rules. Statistical results show that BL plays a role either directly or indirectly with WE intermediaries against AOC and IWB. These findings not only reinforce the results of previous studies that adopted the JD-R model (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2010; Borst et al., 2019) but also research from Arfat et al. (2017) and Ohemeng et al. (2020). Unlike Arfat et al. (2017), who viewed BL as a moderator of structural influences on WE, this study identifies a novel psychological mechanism. Specifically, it demonstrates (at a 10% significance level) that BL acts as a moderator that dictates how PSM translates into work engagement. Organisational structure can be a variable of job demands if viewed from the framework of the JD-R model (Bakker & Demerouti, 2007). However, including psychological variables such as PSM in the framework of the research model shows the important role of BL in encouraging motivation to become commitment and innovation.

It is also crucial to note that WE plays a central and crucial role not only for PSM but also for BL. This is in line with various studies that affirm the central function of WE in forming positive outcomes, such as the findings by Borst et al. (2019) in their research on public administration midwives. They examined employees in the public sector, and the results strengthen the framework of the JD-R model, either from Bakker and Demerouti (2007) or from the initial model built by Schaufeli and Bakker (2002), which states that WE is a fundamental aspect that organisations must build to achieve their goals. In the context of SOEs with their strict regulations, promoting WE is mandatory to allow employees gain experience, can encourage behaviours that can support the achievement of strategic goals (Zhu et al., 2009; Blomme et al., 2015). Through loyal employees, not only because of obligations but also because of emotional attachment and behaviour that always strives to innovate, the main goal of SOEs to serve the public can be achieved. For this reason, the government needs to pay serious attention to the WE variable, not only to become a performance contract for the directors, but also to be part of the movement of daily work steps.

Limitation and Suggestion

The limitation in this study is the use of non-probability sampling, with the convenience technique limiting the generalisation power of the results of this study. Although the number of samples can be categorised as quite large, respondents who filled out the questionnaire may not meet all categories of SOEs in Indonesia. The character of the SOE where the employee works, the level of

position, the level of education, the length of work, the location and the overall demographic character can affect the psychological character of its employees, so that it can cause bias. Future research should utilise SOE datasets that support probability sampling to enhance generalisation. Additionally, comparative studies across different SOEs, accounting for how specific business processes and service products shape employee character, would significantly strengthen the study's external validity.

Furthermore, the use of self-reports to measure IWB can cause bias and not really measure the IWB variable. For further research, it is recommended to use additional measurement strategies through different data sources, such as performance assessment results, direct supervisor assessments, 360-degree surveys related to innovations that have been carried out, and then conduct triangulation to find a more realistic score on IWB variables. Finally, the BL variable in the study is still not significant at the level of 0.05. Future research can also compare SOEs and ministries because the ministry's work system is more rigid towards bureaucracy, so that comparative data can be found to strengthen the theoretical model that has just been built in this study.

Conclusion

The results of the study imply that motivational factors alone are insufficient to in still emotional attachment, as manifested in loyalty and commitment. Similarly, motivation to be able to serve the public alone will not be sufficient to drive innovation. There needs to be a condition where employees feel engaged with the organisation. Only then can employees show commitment based on emotional attachment, which can also support innovation. Meanwhile, the role of leaders is paramount in producing positive outcomes, in this case, reflected by the AOC and IWB variables. Although the role of leadership that can translate bureaucratic regulations into transparent and accountable work procedures is not significant at the 0.05 level, the significance at the 0.1 level shows that this variable can be taken into account contextually. Without a leader's ability to foster motivation, employees are less likely to commit to the organisation or translate their intrinsic drive into performance. Specifically, the lack of leadership reduces the likelihood of consistent, high-quality work patterns and stifles the emergence of innovative behaviours.

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Conflict of Interest Statement

The author declares that there are no conflicts of interest regarding the publication of this manuscript. The research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Appendix

Measurement Scale

Public Service Motivation Scale:

1. Being a public servant is an honour to me.
2. A public sector employee should have a genuine spirit of service from within.
3. To serve the public, employees must understand the characteristics of the people they serve in order to provide optimal service.
4. The Motivation to provide the best service to the community drives me to strive for peak performance.
5. Providing services that benefit the public is important to me.
6. I often think about the well-being of the community I serve, even if I don't know them personally.
7. Considering the interests of many people is an important personal value to me.
8. Making a positive difference that is directly felt by the community is far more valuable to me than personal achievements.
9. The interests of the community I serve are my top priority at work.
10. By having a desire to serve, I am committed to providing the best service not only to the public but also to my colleagues.

Bureaucratic Leadership

1. My leader adjusts leadership strategies to coordinate with the team in accordance with the work system implemented by team members, whether working from the office (WFO) or working from home/anywhere (WFH/WFA).
2. My leader is able to manage team coordination effectively even when not all team members are working from the office (WFO).
3. Leaders at all levels, from top management to lower-level supervisors, comply with working-hour regulations under both work systems, namely WFO and WFH/WFA.
4. My leader respects working-hour regulations when scheduling team coordination, particularly for online coordination.
5. I feel that my leader respects my right not to participate in online coordination during holidays or while I am on leave.

Utrecht Work Engagement Scale (UWES):

1. I am enthusiastic about my job.
2. I am proud of the work that I do.
3. I am immersed in my work.
4. I get carried away when I am working.
5. I feel vigorous when I am working.
6. I am excited about my job.
7. I am completely absorbed in my work.
8. I feel strong and fit when I am working.
9. I am enthusiastic about starting my work in the morning.
10. Time flies when I am working.
11. I am energised when I am working.
12. I am concentrated on my work.
13. I am dedicated to my job.
14. I feel joy when I am working intensely.
15. I am enthusiastic about my tasks at work.
16. I am happy when I am working.
17. I feel confident when I am dealing with difficult tasks at work.

Affective Commitment scale:

1. I feel a strong sense of belonging to my organisation.
2. I really care about the fate of my organisation.
3. I feel emotionally attached to my organisation.
4. I am proud to be a member of my organisation.

Innovative Work Behaviour Scale:

1. I generate new ideas for challenging problems.
2. I gather support for innovative ideas.
3. I obtain approval to develop innovative concepts.
4. I transform innovative ideas into something beneficial.
5. I introduce innovative ideas into the workplace systematically.