

Human Capital Dimensions and Employee Job Performance in Public Financial Management: Empirical Evidence from Nigeria's Federal Civil Service

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Abstract: This study examines the predictive effects of demographic, psychographic, and psychological human capital dimensions on employee job performance within finance-based federal civil service institutions in Abuja, Nigeria. Anchored on Becker's (1962) Human Capital Theory and Münsterberg's (1913) Theory of Industrial Efficiency, the study addresses empirical inconsistencies regarding conventional demographic drivers versus psychological resources in public sector productivity. A descriptive survey research design was adopted, drawing a stratified proportionate sample of 388 respondents from a target population of 13,269 employees across four strategic financial bodies: Federal Inland Revenue Service (FIRS), Ministry of Budget and Economic Planning (MBEP), Ministry of Finance (MF), and Office of the Accountant-General of the Federation (OAGF). Data gathered via a validated 6-point Likert questionnaire (Cronbach's $\alpha = 0.89$) were evaluated using Partial Least Squares Structural Equation Modelling (PLS-SEM) via SmartPLS 4.0. Empirical results indicate that the demographic dimension (age, education, marital status, sex) has no statistically significant impact on employee performance ($\beta = -0.005$ to -0.076 , $p > .05$; $R^2 = 0.011$), demonstrating that superficial demographic traits do not dictate operational efficiency in standardized public service roles. Conversely, psychographic human capital (work motivation, values, commitment) exerts a positive and statistically significant direct effect on performance ($\beta = 0.123$, $t = 2.252$, $p = .024$, $f^2 = 0.015$, $R^2 = 0.015$). Crucially, psychological human capital comprising Positive Psychological Capital (PsyCap: efficacy, optimism, resilience, hope) emerged as the most potent predictor ($\beta = 0.309$, $t = 6.103$, $p < .001$, $f^2 = 0.105$, $R^2 = 0.095$). The study concludes that non-traditional mental and behavioral assets outweigh demographic characteristics in driving public sector efficiency. It recommends that public sector HR executives transition from demographic-based recruitment and deployment toward strategic PsyCap interventions, structured coaching, and behavioral alignment.

Keywords: human capital dimensions, psychological capital (psycap), psychographic human capital, employee job performance, public financial management, federal civil service, PLS-SEM, Nigeria.

INTRODUCTION AND INSTITUTIONAL CONTEXT

Employee job performance remains a fundamental concern for contemporary organizations because the attainment of strategic mandates depends substantially on the capacity of personnel to execute assigned responsibilities effectively, efficiently, and consistently (Tabiu et al., 2016). In public-sector governance, employee performance carries heightened significance because it directly dictates the fidelity of government policy implementation, the delivery of public infrastructure, institutional accountability, and the efficient management of national revenue (Achinike et al., 2026; George et al., 2023). Persistent inefficiencies or performance variations within state bureaucratic institutions severely compromise institutional credibility and economic performance.

Traditionally, organizational scholars and public administrators have evaluated human capital through conventional, tangible indicators such as formal educational attainment, technical qualifications, specialized training, and tenure (Becker, 1962; Khan & Quaddus, 2018). Human capital represents the embodied knowledge, capabilities, experience, and intellectual assets utilized by individuals in productive economic activities. However, public sector employees are not merely passive repositories of technical skills; they are complex socio-psychological agents possessing distinct demographic backgrounds, deep seated work values, intrinsic motivations, emotional orientations, and psychological resilience mechanisms (Luthans et al., 2007; Pumpurs, 2021). Recognizing this reality, contemporary organizational research advocates expanding the conceptualization of human capital beyond traditional educational or experience metrics to encompass non-traditional behavioral, psychographic, and psychological dimensions.

The central institutional domain of this inquiry focuses on finance-based federal civil service agencies situated in Abuja, the Federal Capital Territory of Nigeria. Specifically, the study investigates four core government institutions responsible for national public financial management: The Federal Inland Revenue Service (FIRS), the Ministry of Budget and Economic Planning (MBEP), the Ministry of Finance (MF), and the Office of the Accountant-General of the Federation (OAGF). Collectively maintaining a total workforce of 13,269 civil servants in 2025 (FIRS: 11,000; MBEP: 364; MF: 782; OAGF: 1,123), these agencies constitute the financial nexus of the Nigerian federation. They execute non-routine, high-stakes mandates encompassing sovereign tax collection, fiscal policy formulation, annual budget preparation, expenditure control, and public revenue disbursement. Consequently, civil service productivity in these agencies underpins national macroeconomic stability.

Statement of Problem and Research Gaps

Despite substantial investments in public administration reform and formal capacity-building initiatives, performance heterogeneities remain widespread across Nigeria's federal ministries,

departments, and agencies (Tabiu et al., 2016; Nwachukwu, 2024). Three critical research gaps motivate this study:

- 1. Empirical Inconsistencies Surrounding Demographic Determinants:** Prior literature yields highly contradictory findings regarding whether demographic characteristics (age, educational qualification, marital status, sex) meaningfully predict job performance. While scholars like Earl et al. (2017) and Khan and Quaddus (2018) assert that demographic structures determine workforce capability and productivity, empirical inquiries by Andrew (2020) and Belostrino and Estiller (2024) report no significant gender or marital differences in worker productivity. This creates uncertainty regarding whether public sector HR policies should prioritize demographic profiling.
- 2. Contextual Insufficiency in Public Financial Management:** While psychographic attributes (attitudes, commitment, work values) and psychological resources (Positive Psychological Capital: PsyCap) have been widely investigated in private enterprises, information technology firms, and healthcare organizations (Avey et al., 2011; Delima, 2019; Riyanto et al., 2021), empirical investigations focusing specifically on finance-based public civil service institutions in developing economies remain sparse.
- 3. Lack of Integrated Multi-Dimensional Frameworks:** Existing studies frequently examine demographic traits, training programs, or psychological capital in isolation. Very few empirical inquiries systematically evaluate the relative predictive contributions of demographic, psychographic, and psychological human capital dimensions within a unified structural equation modeling framework.

Research Objectives & Hypotheses

To resolve these empirical uncertainties, this study examines the comparative impact of demographic, psychographic, and psychological human capital dimensions on employee job performance in Nigeria's federal financial institutions. Specifically, the research tests three null hypotheses:

- H01:** The demographic dimension of human capital (age, educational level, marital status, sex) has no statistically significant effect on employee job performance.
- H02:** The psychographic dimension of human capital (work motivation, commitment, values, attitudes) has no statistically significant effect on employee job performance.
- H03:** The psychological dimension of human capital (self-efficacy, optimism, resilience, hope) has no statistically significant effect on employee job performance.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Conceptual Clarifications

Demographic Human Capital

Demographic human capital encompasses observable, foundational population characteristics embodied within an organization's workforce, including age distribution, educational attainment, marital status, gender composition, and organizational tenure (Chung & Noury, 2025; Han & Lee, 2020). Researchers argue that demographic assets represent explicit knowledge repositories and rational cognitive capabilities, shaping how labor forces absorb modern technology and manage administrative responsibilities (Khan & Quaddus, 2018; Makumbe et al., 2025). However, demographic factors reflect surface-level employee profiles that may not automatically translate into active effort or superior performance.

Psychographic Human Capital

Psychographic human capital refers to the non-cognitive behavioral profile of personnel, including individual work values, intrinsic motivation, psychological commitment, organizational loyalty, interests, and lifestyle orientations (Guo & Adenan, 2025; Kumar et al., 2025). Unlike observable demographic indicators, psychographic assets elucidate how employees think, what intrinsically drives them, and how willingly they expend discretionary effort toward organizational mandates (Pumpurs, 2021; Sharma & Jhamb, 2017). Scholars emphasize that psychographic capital incorporates voluntary labor, extraordinary commitment, and tacit knowledge sharing, which are vital for organizational innovation and task execution (Abbas et al., 2024; Dinu, 2025).

Psychological Human Capital (PsyCap)

Psychological human capital represents an individual's positive mental state of development characterized by four core psychological capacities, collectively known as the 'HERO within' (Luthans et al., 2007; Luthans & Broad, 2020):

- **Hope (Willpower and Waypower):** Persevering toward performance objectives and redirecting operational pathways when encountering institutional obstacles (Järvenoja et al., 2025).
- **Self-Efficacy / Confidence:** Belief in one's capability to mobilize cognitive resources, motivation, and courses of action needed to execute challenging financial tasks (Bandura, 2023; Keleş, 2023).
- **Resilience:** The psychological capacity to bounce back, recover, and adapt when beset by workplace adversity, administrative stress, or institutional restructuring (Gouws, 2025; Nasreen et al., 2024).
- **Optimism:** Making positive explanatory attributions regarding current and future career and organizational successes (Kızrak et al., 2017).

Employee Job Performance

Employee job performance reflects the total expected organizational value of discrete behavioral episodes that an individual carries out over a specified period (Avey et al., 2011; Tabiu et al., 2016). In financial public administration, job performance encompasses task proficiency, accuracy in financial reporting, adherence to statutory fiscal guidelines, timeliness in budget preparation, and administrative compliance.

Theoretical Anchors

This study is anchored on two complementary theoretical frameworks:

Human Capital Theory (Becker, 1962): Becker's foundational theoretical framework posits that investments in human resources via education, workplace training, medical care, and emotional intelligence yield productive capabilities analogous to physical capital accumulation (Becker, 1962; Nwachukwu, 2024). Modern extensions of Becker's theory establish that human capital extends beyond formal education to encompass non-traditional behavioral, psychological, and psychographic capital that empower personnel to maximize operational potential (Aniah et al, 2026; Aslam et al., 2024; Zakiy & Kuswanjono, 2023).

Theory of Industrial Efficiency (Münsterberg, 1913): Münsterberg, the pioneer of industrial psychology, postulated that workplace efficiency depends on three psychological imperatives: selecting individuals with psychological aptitude fitted to specific roles ('The Best Possible Person'), configuring supportive psychological work environments ('The Best Possible Work'), and tapping into employee psychological drivers to elicit maximum effort ('The Best Possible Effect') (Münsterberg, 1913). Münsterberg's framework justifies examining how psychological resilience and behavioral motivation shape productivity within structured public bureaucracies.

Empirical Review & Hypotheses Synthesis

Empirical literature concerning demographic predictors reveals conflicting results. Amegayibor (2021) and Hendrawijaya (2019) observed that age, education, and tenure significantly enhanced employee productivity in manufacturing settings. Similarly, Hassan and Olufemi (2014) noted that demographic variables accounted for 13% of performance variance among sales personnel. However, public sector investigations by Andrew (2020) in Sri Lanka and Belostrino and Estiller (2024) in the service sector demonstrated that gender and marital status exerted no significant impact on performance, supporting H01.

Regarding psychographic capital, Khan and Quaddus (2018) and Pantea (2019) demonstrated that work values, intrinsic motivation, and organizational commitment significantly enhanced organizational productivity. Delima (2019) and Gridwichai et al. (2020) confirmed that personality traits and positive work attitudes directly elevated job performance across healthcare and pharmaceutical sectors, supporting the rejection of H02.

In psychological capital research, seminal meta-analyses by Avey et al. (2011) across 51 independent samples ($N = 12,567$) established that PsyCap strongly predicts positive job performance, organizational citizenship, and employee well-being. Studies by Huang et al. (2021), Sen et al. (2024), and Jia and Zhang (2025) across hotel, telecommunications, and Chinese public government sectors confirmed that psychological capital constitutes the single strongest predictor of employee job performance, reinforcing the rationale for testing H03.

RESEARCH METHODOLOGY

Research Design & Philosophy

The study adopted a quantitative, post-positivist research philosophy utilizing a descriptive survey research design. This approach is well-suited for evaluating direct causal and predictive relationships among latent human capital constructs and employee job performance across institutional strata.

Population & Stratified Sampling

The target population comprised 13,269 civil service personnel across four finance-based federal civil service institutions located in Abuja, Nigeria, as recorded in agency statistics (2025). The population distribution spans: Federal Inland Revenue Service (FIRS: $N = 11,000$), Office of the Accountant-General of the Federation (OAGF: $N = 1,123$), Ministry of Finance (MF: $N = 782$), and Ministry of Budget and Economic Planning (MBEP: $N = 364$).

Applying Taro Yamane's sample size calculation formula (Yamane, 1967):

$$n = N / [1 + N(e)^2] \Rightarrow 13,269 / [1 + 13,269(0.05)^2] \approx 388 \text{ respondents}$$

To ensure proportionate representation across heterogeneous government agencies, a stratified proportionate sampling technique was employed. Exactly 2.92% of the workforce from each institution was sampled (Isangedighi, 2012): FIRS ($n = 321$), OAGF ($n = 33$), MF ($n = 23$), and MBEP ($n = 11$), yielding a total sample of 388 respondents.

Measurement Instrumentation & Pretesting

Data collection was executed using a structured, self-developed 25-item questionnaire structured into four sections: Section A (Demographic Profile: 5 items), Section B (Psychographic Human Capital: 5 items measuring motivation, values, commitment), Section C (Psychological Human Capital: 5 items measuring PsyCap - hope, efficacy, resilience, optimism), and Section D (Employee Job Performance: 10 items). Responses were scored on a 6-point Likert scale: Strongly Agree (6), Agree (5), Partially Agree (4), Partially Disagree (3), Disagree (2), and Strongly Disagree (1).

A pilot survey was conducted using a 10% sample size ($n = 38$ respondents) in Nasarawa State public service to establish psychometric integrity. Reliability analysis yielded an overall Cronbach's alpha of 0.89, exceeding the standard 0.70 threshold (Hair et al., 2019). Convergent

validity was verified via Average Variance Extracted ($AVE > 0.50$), while discriminant validity was confirmed via the Heterotrait-Monotrait ratio ($HTMT < 1.00$) (Henseler et al., 2015).

Analytical Strategy (PLS-SEM)

Data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) executed on the SmartPLS 4.0 statistical platform. PLS-SEM was chosen due to its superior predictive capability, nonparametric robustness, and efficiency in handling complex structural models with latent variables.

Empirical Results and Structural Model Assessment

The structural model was evaluated using path coefficients (β), standard deviations (SD), t-values via 5,000 bootstrapping resamples, p-values ($\alpha = .05$), 95% bias-corrected confidence intervals, effect sizes (f^2), and coefficients of determination (R^2).

Hypothesis One: Demographic Human Capital vs. Job Performance

Hypothesis 1 posited that the demographic dimension of human capital has no significant effect on employee job performance. Table 1 summarizes the structural path estimates for demographic indicators.

Table 1: Structural Model Results for Demographic Predictors of Employee Job Performance (EJP)

Path	B	SD	t-value	p-value	95% CI	f^2	Decision
Age → EJP	-0.055	0.059	0.944	0.345	-0.16, 0.073	0.003	Not significant
Educ. Level → EJP	-0.076	0.054	1.409	0.159	-0.174, 0.036	0.006	Not significant
Marital Status → EJP	0.049	0.057	0.867	0.386	-0.065, 0.157	0.002	Not significant
Sex → EJP	-0.005	0.136	0.038	0.97	-0.26, 0.255	0.000	Not significant

β = standardized path coefficient; CI = confidence interval; significance evaluated at $p < .05$. Effect size guideline: 0.02 = small, 0.15 = medium, 0.35 = large.

Source: Researcher's Field Survey, 2026

As detailed in Table 1, none of the demographic indicators produced a statistically significant effect on job performance. Age exhibited a negative, non-significant path ($\beta = -0.055$, $t = 0.944$, $p = .345$, $f^2 = 0.003$). Education level similarly recorded a non-significant negative path ($\beta = -0.076$, $t = 1.409$, $p = .159$, $f^2 = 0.006$). Marital status ($\beta = 0.049$, $t = 0.867$, $p = .386$, $f^2 = 0.002$) and sex ($\beta = -0.005$, $t = 0.038$, $p = .970$, $f^2 = 0.000$) also showed no significant predictive power, with all 95% confidence intervals straddling zero. Jointly, demographic predictors accounted for only 1.1% of performance variance ($R^2 = 0.011$, Adjusted $R^2 = 0.001$). Consequently, H01 is accepted.

Hypothesis Two: Psychographic Human Capital vs. Job Performance

Hypothesis 2 posited that the psychographic dimension of human capital has no significant effect on employee job performance. Table 2 displays the structural equation model result.

Table 2: Structural model result for Psychographic Dimension and Employee Job Performance

Path	β	SD	t	p	95% CI	f^2	Decision Statistically Significant
PD Dimension → EJP	0.123	0.055	2.252	.024	0.063, 0.224	0.015	Significant

PD = psychographic dimension; EJP = employee job performance; β = standardized path coefficient; CI = confidence interval; significance evaluated at $p < .05$. Effect size guideline: 0.02 = small, 0.15 = medium, 0.35 = large.

Source: Researcher's Field Survey, 2026

Table 2 indicates that psychographic human capital exerts a positive and statistically significant direct effect on employee job performance ($\beta = 0.123$, $t = 2.252$, $p = .024$). The 95% confidence interval [0.063, 0.224] excludes zero, confirming statistical significance. The construct explains 1.5% of performance variance ($R^2 = 0.015$, $f^2 = 0.015$). Accordingly, H02 is rejected.

2.1 Hypothesis Three: Psychological Human Capital vs. Job Performance

Hypothesis 3 posited that the psychological dimension of human capital has no significant effect on employee job performance. Table 3 presents the structural path findings.

Table 3: Structural Model Results for Psychological Dimension and Employee Job Performance

Path	B	SD	t	p	95% CI	f^2	Decision Statistically Significant
Psy Dimension → EJP	0.309	0.051	6.103	.000	0.214, 0.410	0.105	Significant

PD = psychological dimension; EJP = employee job performance; β = standardized path coefficient; CI = confidence interval; significance evaluated at $p < .05$. Effect size guideline: 0.02 = small, 0.15 = medium, 0.35 = large. *Note: $R^2 = 0.095$ (Adjusted $R^2 = 0.093$)*

Source: Researcher's Field Survey, 2026

As shown in Table 3, psychological human capital demonstrated the strongest direct predictive contribution to employee job performance ($\beta = 0.309$, $t = 6.103$, $p < .001$). The 95% confidence interval [0.214, 0.410] is entirely positive. The effect size is moderate ($f^2 = 0.105$), and the construct accounts for 9.5% of performance variance ($R^2 = 0.095$, Adjusted $R^2 = 0.093$). Therefore, H03 is rejected.

Structural Model Hierarchy

Comparing across all three human capital dimensions establishes a clear predictive hierarchy: Psychological Capital ($\beta = 0.309$) > Psychographic Capital ($\beta = 0.123$) > Demographic Attributes (Non-significant). Inner mental resilience and behavioral engagement exert far greater impact on public sector productivity than demographic profiles.

DISCUSSION OF FINDINGS

The empirical finding that demographic characteristics (age, education, marital status, sex) do not significantly predict employee performance in finance-based federal agencies aligns with modern institutional realities. In public financial administration (FIRS, MBEP, MF, OAGF), operational tasks are strictly governed by standardized civil service regulations, standard operating procedures, tax laws, and digital accounting systems (GIFFMIS, ITAS). Under such structured operational protocols, technical compliance is determined by task-specific competencies and operational guidelines rather than superficial demographic traits. This finding concurs with empirical observations by Andrew (2020) and Belostrino and Estiller (2024), who established that gender and demographic variables do not drive workplace productivity when standardized workflows prevail.

Conversely, the statistically significant effect of psychographic human capital ($\beta = 0.123$, $p = .024$) underscores that intrinsic work values, organizational commitment, and positive work interest enhance civil service performance. When public servants possess strong ethical orientations, intrinsic motivation, and alignment with institutional goals, they demonstrate higher willingness to execute duties diligently. This finding reinforces the empirical positions of Khan and Quaddus (2018), Pantea (2019), and Smith et al. (2021), confirming that psychographic assets translate into discretionary workplace effort.

Most importantly, the prominent predictive supremacy of psychological human capital ($\beta = 0.309$, $p < .001$) highlights that Positive Psychological Capital (PsyCap) efficacy, optimism, resilience, and hope is the paramount human resource driver in public financial governance. Financial civil service roles in Abuja involve intense public scrutiny, complex revenue targets, high administrative workloads, and fiscal stress. Civil servants equipped with high self-efficacy possess the cognitive confidence to execute difficult audits; those with high hope identify alternative regulatory pathways when encountering bottlenecks; resilient employees adapt rapidly to policy shifts; and optimistic staff maintain positive career expectations. This result directly supports the foundational assertions of Luthans et al. (2007) and aligns with recent empirical studies by Avey et al. (2011), Sen et al. (2024), and Jia and Zhang (2025).

IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSION

Theoretical Contributions

This study advances Human Capital Theory (Becker, 1962) by providing empirical validation for expanding human capital frameworks beyond traditional educational and demographic metrics to incorporate psychological and psychographic dimensions. It also enriches Münsterberg's (1913) Industrial Efficiency Theory by demonstrating that psychological resources represent the core mechanism mediating person-job fit and organizational performance in public financial administration.

Practical & Managerial Recommendations

De-emphasize Demographic Profiling: Civil service commissions and public HR managers should refrain from utilizing age, gender, or marital status as criteria for talent deployment, promotion, or performance appraisal.

Institutionalize Strategic PsyCap Development: Public sector HR leadership in FIRS, MBEP, MF, and OAGF should implement structured psychological capital interventions, including executive coaching, resilience training, stress management workshops, and efficacy-building masterclasses.

Align Psychographic Orientations: Recruitment and talent onboarding processes should incorporate psychographic profiling to evaluate candidate work values, organizational commitment, and intrinsic motivation.

Suggestions for Further Research

Future inquiries should expand the structural model to incorporate additional human capital facets, such as digital capital, social capital, and spiritual capital. Furthermore, incorporating mediating variables (job satisfaction, organizational culture, leadership style) and adopting longitudinal research designs will enhance causal clarity across multi-regional public sector environments.

Ethical Considerations

This research adhered to strict academic and ethical standards. Participation was strictly voluntary with informed consent. Respondent anonymity and institutional data confidentiality were maintained across all participating federal agencies, ensuring protection from administrative exposure.

Conclusion

This study demonstrates that public sector employee job performance in Nigeria's finance-based federal civil service is predominantly driven by psychological resources and psychographic work orientations rather than superficial demographic attributes. By transitioning from traditional demographic metrics toward strategic psychological capital development, public institutions can significantly elevate administrative efficiency, fiscal governance, and service delivery.

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