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Dickson Mdhlalose

dsskosana@gmail.com

Eduvos

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A mediated-moderation model of non-financial rewards, employee engagement and innovative work behaviour in a culturally pluralistic public sector

Dickson Mdhlalose 

Eduvos, Johannesburg, South Africa

* Correspondence: dsskosana@gmail.com

Abstract: This study examines the impact of non-financial rewards on employee innovation in two South African municipalities. A quantitative, cross-sectional survey design was employed, drawing on a stratified random sample of 278 respondents (out of 300 distributed questionnaires; 92% response rate) across both municipalities. Data were analysed using Structural Equation Modelling (SEM) via AMOS, including Confirmatory Factor Analysis (CFA) and assessment of model fit indices. Non-financial rewards positively and significantly predict employee engagement, and the indirect effect is consistent with full mediation of the relationship between rewards and innovation. However, the cross-sectional design does not permit causal claims. Collectivist culture shows the strongest association with engagement, while individualistic culture also has a positive effect. This study uniquely integrates the Job Demands-Resources (JD-R) model and Social Exchange Theory (SET) frameworks to test a mediated-moderated model of non-financial rewards, engagement, and employee innovation in two South African municipalities, revealing that collectivist culture exerts a stronger moderating influence than individualistic culture on the rewards-innovation pathway.

Keywords: non-financial rewards, employee engagement, employee innovation, collectivistic culture, individualistic culture

1. Introduction

Employee disengagement and stagnant innovation represent a growing crisis in South Africa's public sector, where municipal governments continue to rely on traditional, financially dominant reward systems that fail to meet employees' psychological and motivational needs (Branka & Marija, 2021). A primary investigation of two South African municipalities revealed that neither institution possessed a modern total reward system; reward policies existed but were largely unknown to employees, and the prevailing management style was autocratic rather than engagement-oriented (Mdhlalose, 2021). Globally, substantial proportions of employees remain either actively disengaged or not engaged at work, a pattern consistently documented across large-scale workforce studies (Bailey et al., 2020; Shuck et al., 2020). In South Africa specifically, public municipalities face compounding pressures: budget constraints restrict financial reward options, service delivery expectations are rising, and the workforce is culturally diverse, encompassing employees whose motivational orientations range from individualistic self-achievement to collectivist Ubuntu-based communalism (Raath & Phillips, 2023; Tauetsile, 2021). Despite these pressures, the potential of non-financial rewards, including recognition, autonomy, career development, and flexible working arrangements, to address disengagement and stimulate innovative behaviour remains significantly underexplored in the South African public sector (Gupta & Sharma, 2021). This gap between reward practice and organisational need constitutes the core urgency motivating this study.

The South African public sector presents a unique contextual paradox: government salary structures are regulated by the Department of Public Service and Administration (DPSA), creating rigid financial compensation frameworks that constrain municipalities' ability to compete on financial

rewards alone. This structural constraint makes non-financial rewards not merely a complementary option but a strategic necessity for engagement and innovation. South African municipalities embody a rare confluence of individualistic and collectivist cultural orientations within a single organisational environment: Piek's (1997) research established that individualism and Ubuntu collectivism coexist in the South African workplace, creating a culturally layered context in which the effectiveness of reward systems cannot be understood without accounting for cultural moderation. South African municipalities face acute and well-documented service delivery challenges, driven in part by disengaged employees and a lack of innovation in service processes (Branka & Marija, 2021; Raath & Phillips, 2023). These conditions make the rewards-engagement-innovation relationship not only academically relevant but practically urgent for improving public service outcomes for citizens.

Despite growing scholarly interest in reward management and organisational innovation, the existing literature contains several identifiable and significant gaps. Gap 1: The preponderance of prior research has focused on financial and extrinsic rewards, disproportionately neglecting the intrinsic and non-financial dimensions of reward systems and their differential effects on employee outcomes (Khan et al., 2020; Lee et al., 2020). Gap 2: While employee engagement is broadly acknowledged as a precursor to innovative work behaviour, the specific mediating mechanism by which non-financial rewards produce innovation, with engagement as the psychological conduit, remains insufficiently tested, particularly through rigorous SEM-based analyses (Albrecht et al., 2020; Bailey et al., 2020). Gap 3: Cultural orientation, especially the individualism–collectivism dimension, is recognised as a significant contextual moderator of reward effectiveness, yet formal empirical tests of its moderating role in the rewards–innovation relationship are rare; most studies treat culture as background context rather than as an active analytical variable (Gelfand et al., 2020; Hofstede, 2020). Gap 4: The overwhelming majority of empirical studies in this domain have been conducted in Western, private-sector, or East Asian settings, rendering their findings of limited generalisability to Sub-Saharan African public sector organisations with distinct cultural norms, institutional structures, and reward constraints (Nguyen et al., 2022; Tauetsile, 2021).

Gap 5: Cross-cultural organisational behaviour research that combines non-financial reward systems with both cultural moderation and mediation analyses within a single framework is virtually absent from the South African municipal literature, leaving a critical empirical void that hampers evidence-based human resource management (HRM) policy development in the region (Gelfand et al., 2020). This study pursues the following specific objectives: (1) to determine the effect of non-financial rewards on employee engagement in South African municipalities; (2) to examine the mediating role of employee engagement between non-financial rewards and employee innovation; (3) to assess the moderating effects of individualistic and collectivist cultural orientations on the relationship between non-financial rewards and employee innovation; (4) to evaluate the combined effect of non-financial rewards, engagement, and cultural context on fostering innovative behaviour among employees; and (5) to provide evidence-based recommendations for designing culturally responsive reward systems that enhance engagement and innovation in South African municipalities. Although these aims are placed in a South African municipal setting, these aims can be seen to resonate with a broader theoretical issue in comparative HRM and organisational behaviour: are reward-induced mechanisms to foster both engagement and innovation, as well as the individualism-collectivism moderation component built into them, universal across culturally pluralistic settings in the public sector, or do they need to be re-framed within culturally specific contexts? The two municipalities can thereby be seen as a critical case to explore and build on the Job Demands-Resources (JD-R) and Social Exchange Theory (SET) perspectives, which were mainly developed in Western and East Asian contexts.

2. Literature Review

2.1 Employee Rewards on Employee Engagement

Despite increased efforts by organisations, approximately 80% of employees globally are either actively disengaged from their jobs or not engaged at all (Gallup, 2023). The development of employee engagement occurs when the three psychological requirements of psychological meaningfulness, psychological safety, and psychological availability are met (Kahn, 1990). Reward systems are becoming a crucial component of organisational management. Mainly when the business is deeply concerned about the organisation's atmosphere and its employees' involvement (Taufek et al., 2016). Abun et al. (2020) state that disengaged employees are less productive and cost more money. Madhani (2020) stresses that a sound reward system improves employee engagement. D'Souza (2018) and Hoole and Hotz (2016) emphasise that rewards significantly affect the extent to which employees are invested in the organisation. However, the relative importance and attractiveness of these components to employees vary (Koskey & Sakataka, 2015; Neranto, 2022).

Koskey and Sakataka (2015) found that promotion opportunities were the leading direct financial factor influencing employee engagement. The most significant factors influencing employee engagement are health benefits, job-relevant training, and unrestricted communication with employees. Seid (2019) argued that intrinsic rewards have the most significant impact on employee engagement. Employee engagement increases when a culture of appreciation is fostered. On the contrary, extrinsic rewards were found to decrease employee engagement. Chioma (2020) showed that financial rewards and indicators of employee engagement (such as physical, cognitive, and emotional involvement) are significantly and favourably correlated. All non-financial prizes and other intangible benefits outperformed the most influential financial rewards in terms of their impact on employee engagement (Dow et al., 2010). Employee engagement is not significantly influenced by materialism. However, employee engagement is inversely correlated with total compensation, suggesting employee dissatisfaction (Adarsh, 2020).

Choudhury and Mohanty (2018) argued that the current generation differs from previous generations in that it places greater value on a healthy work-life balance, decision-making autonomy, and access to professional development opportunities than on financial rewards. Herzberg (1954) argued that insufficient compensation may frustrate and demotivate employees, but this does not indicate that having more money will boost motivation or even contentment. Reward and punishment constitute two sides of the same coin. Since rewards can be inherently manipulative, much like harsh punishment, they may carry a punitive undercurrent (Herzberg, 1954, 2005). The reward alone may be appealing, but when managers tie a bonus to specific actions, they exert control over their employees, and, in the long run, that control will likely seem punitive. Kohn (1993) argued that the impact of employee rewards on employee innovation in an organisation is undeniable; however, it depends on employee engagement as a mediator between the two variables. Taken together, the above arguments provide conceptual logic for the relationship between rewards and engagement. That is, when employees receive non-financial rewards that address their psychological needs (recognition, autonomy, and development), they, in turn, respond with greater vigour, dedication, and absorption in their work. The magnitude of this positive relationship depends on whether non-financial rewards (intrinsic rewards) are emphasised in terms that appeal to employees' intrinsic motivation.

2.2 Individualistic and Collectivistic Cultures in the Public Sector

Collectivism in public sector organisations encourages greater employee engagement (Triguero-Sánchez et al., 2022). Individualism, unlike collectivism, is often seen as directly promoting economic development by increasing rewards for individuals to invest, innovate, and accumulate wealth over time. Societal standards and roles govern individuals' conduct in public. Collective acts must be coordinated jointly and harmoniously. If an individual's objectives do not align with societal

needs, they may be asked to set aside personal interests to achieve peace in the community. This is not a sign that people always agree with the current social standards. If disagreements arise, individuals are expected to suppress their wants, keep them hidden, and refrain from expressing them publicly (Kim et al., 1994). However, Kyriacou (2015) emphasises that the individualist-collectivist dichotomy can influence growth by influencing the level of governance. The within-group preference associated with collectivist cultures is prone to breed nepotism, dishonesty, and businesslike behaviour in the public realm.

Jha and Panda (2017) emphasise that countries with a stronger sense of individualism exhibit lower levels of criminal behaviour. Collectivism-individualism is shaped by social behaviour, family beliefs, and trust, which can affect efficacy in collective action (or its absence) (Rautakivi et al., 2022). The effects of cross-cultural comparisons on public sector employee engagement are complex and require an understanding of how cultural variations shape employees' attitudes, motivations, and actions. Although it is often believed that national culture affects engagement, Weeratunga's (2023) research shows that this relationship is nuanced and may not be as clear-cut as previously believed. Given this complexity, a sophisticated understanding of how cultural contexts affect employee engagement across a variety of industries, including public administration, is necessary. Organisational culture plays a crucial role. An inclusive corporate culture helps employees feel a sense of belonging, which is crucial for increasing engagement (Hasan, 2023; Tauetsile, 2021). Nurcholis and Budi (2020), who contend that a supportive work culture and perceived organisational support greatly increase employee engagement, concur with this finding.

2.3 Employee Engagement in Employee Innovation

Human resource professionals are becoming increasingly interested in employee engagement. However, this is also the case in the private sector. Public sector services encounter significant hurdles. Arguably, the key to overcoming these difficulties is having engaged public employees (Eldor & Vigoda-Gadot, 2013). In the public sector, a lack of involvement due to poor compensation and rewards programmes tends to lead to disengagement and counterproductive behaviour among employees (Koodamara & Thomas, 2017). The constantly changing environment of modern business means that several factors play a crucial role in determining an organisation's success. Two such factors are employee engagement and innovation performance. Employee engagement increases the likelihood that employees will spur innovation, question conventional wisdom, and support the organisation's growth (Shkurti & Mustafa, 2024). Many organisations rarely (when systems and processes fail) or routinely (even when they engage in innovation without collaborative or tactically advantageous collaboration) engage employees in innovation processes (Stachová et al., 2018). Swaroop and Dixit (2018) state that organisational success depends on studying organisational behaviour that fosters innovation since innovation cannot occur without employees' involvement. Employee participation is impossible in a highly structured environment that leaves no room for individuality, innovation, or accountability, according to Werner (2020).

Employees who are allowed to innovate are more likely to be engaged in the organisation. Every organisation's performance largely depends on its ability to engage its workforce (Shailashri & Shenoy, 2016). Innovative behaviour is inclined to be displayed by engaged employees (Ghani et al., 2023a). Design activities, clarification, and service execution are critical to an organisation's operations and employee engagement. Pedraza et al. (2016) argue that innovative behaviour is driven by engagement and, in the present context, is characterised by sentiments of duty and autonomy (engagement-innovation) as well as a sense of ownership and belonging (engagement-managing the family and the organisation). Research, innovative work practices, and employee engagement are directly related (Dixit & Upadhyay, 2021).

Another material, job autonomy, directly impacts innovative work practices; employee engagement does not mediate this effect. Employee engagement is the channel through which rewards influence

innovative work behaviour instead of directly impacting it. Innovation is critical in helping organisations thrive in today's fiercely competitive and dynamic commercial environment. By emphasising employee engagement, organisations may best preserve innovation by integrating it into their culture. Innovation and employee engagement are mutually reinforcing; innovative organisations have higher employee engagement, while engaged staff have a greater capacity for innovation (Rao, 2016). Lukić-Nikolić et al. (2021) suggest that employee engagement is a powerful driver of workplace innovation. Arshi and Rao (2019) state that organisations can gain a competitive edge by utilising employees' innovative potential and engaging them. Thus, employee engagement is posited as the proximal psychological precursor of innovative work behaviour.

3. Hypothesis development

Drawing on the JD-R model and SET, this study posits that rewards function as key organisational resources that enhance engagement and, in turn, drive innovation. The JD-R model posits that job resources, such as recognition, autonomy, and support, increase engagement and positive outcomes, including creativity (Bakker & Demerouti, 2017; Demerouti et al., 2001). SET further explains that when employees perceive fair and supportive treatment from their organisation, they reciprocate with higher engagement and innovative behaviour (Blau, 1964).

H1: Non-financial rewards have a positive and significant effect on employee engagement.

H2: Employee engagement mediates the relationship between non-financial rewards and employee innovation.

H3: Individualistic culture moderates the relationship between non-financial rewards and employee innovation, such that this relationship is stronger at higher levels of individualistic orientation.

H4: Collectivist culture moderates the relationship between non-financial rewards and employee innovation, such that the relationship is stronger under a higher collectivist orientation.

H5: Employee engagement positively influences employee innovation.

4. Materials and methods

This study employed an explanatory, cross-sectional quantitative design to examine associations and statistical relationships among non-financial rewards, employee engagement, employee innovation, and cultural orientation (Saunders et al., 2019). As with all cross-sectional designs, the data support tests of association rather than causal inference; this constraint is revisited in the Limitations section. Data were collected between April 2024 and August 2024 using a structured self-administered questionnaire. The target population comprised employees of two South African municipalities: Nkangala District Municipality in Middelburg, Mpumalanga, and the City of Johannesburg Metropolitan Municipality, Gauteng. These municipalities were selected for their cultural diversity, service delivery challenges, accessibility, and representation of diverse cultural compositions. Using Yamane's (1967) formula with a 6% margin of error, a target sample of 300 respondents was calculated from a population of 660 ($n = 660 / [1 + 660(0.06)^2] = 300$). A total of 278 usable responses were obtained, yielding a response rate of 92%, which is acceptable according to Saunders et al. (2016) and exceeds the 60% threshold recommended by Fincham (2008) and Richardson (2005). According to Babbie (2007) and Kidder (1981), a response rate of 50% is appropriate in social research surveys. To address the lack of representativeness, the researcher adjusted the sample segmentation to reflect better broader population characteristics (Brick & Kalton, 1996).

Before full-scale administration, the questionnaire was pilot-tested with 10 administrators and officials who each had at least five years' organisational experience; printed surveys were used, and

pre-testing followed the four-step protocol of Bowden et al. (2002), including independent review by two subject-matter/language expert reviewers, to establish content and face validity. Feedback from this process led to several refinements: the Likert-scale labels were simplified to clearer "strongly agree" to "strongly disagree" endpoints, job-title categories were consolidated into manager/non-manager groupings, and item wording and grammar were clarified. To further reduce bias, the questionnaire was self-administered to limit interviewer-introduced bias, and the response rate (92%, 278 of 300 distributed questionnaires) was reported transparently above. Quantitative data were analysed using Structural Equation Modelling (SEM) via Analysis of Moment Structures (AMOS), employing Confirmatory Factor Analysis (CFA) to assess validity and reliability, followed by path analysis to examine associations among the hypothesised relationships. This two-step approach was adopted because it separates the assessment of measurement quality (the CFA stage) from the test of hypothesised structural relationships (the path-analysis stage), models measurement error explicitly, and thereby yields more reliable parameter estimates than single-step regression-based techniques (Byrne, 2016; Hair et al., 2019).

Following the reporting of this initial model and to provide further clarification on the research aims concerning cultural moderation, a series of moderation analyses were carried out. The path model described here investigated the direct and mediated associations between the financial and non-financial rewards, the employee engagement outcomes and employee innovation, with the cultural orientations individualist and collectivist directly predicting the employees' engagement (H3, H4). The subsequent moderation tests (interaction terms and simple slopes) conducted are presented formally hereunder after realising that a direct testing approach did not fully satisfy the extent to what extend cultural factors influence the rewards-innovation relationship. Therefore, it can be stated that this series of analyses is exploratory and performed following an a posteriori approach instead of a confirmatory strategy, as they were not preplanned, in opposition to pre-registered test approaches. Thus, the reported results from interactions should only be seen as preliminary indications of possible cultural moderators that need validation in following research designed within a pre-established research strategy.

4.1 Respondent Demographic Profile

Data were collected between April and August 2024, the same window reported in the Materials and Methods section, from employees of Nkangala District Municipality (Middelburg, Mpumalanga) and the City of Johannesburg Metropolitan Municipality (Gauteng), selected purposively as contextually relevant sites because both represent large South African public institutions operating within culturally diverse workforces, yet exhibiting persistent challenges in employee motivation and service delivery innovation. Sampling therefore proceeded in two stages: the two municipalities were purposively selected as sites, and respondents within each municipality were then drawn using stratified random sampling, as reported in the Materials and Methods section. Table 1 presents the demographic profile of the 278 respondents.

The 'Non-manager/Admin.' group (81.3% of the total sample): This group needs some further unpacking, as it is not a truly homogeneous 'occupational' grouping. In line with the questionnaire's classification of 'discipline/unit', this group includes all employees that are non-supervisory in function that do not have a formal manager title across the service, ranging from general office support and administrative employees through to frontline service delivery staff (for example, a service desk officer at a municipal customer services hub), and technical/operational support staff (for example, engineering/infrastructure staff or staff who works with utilities). This group was not analysed into their detailed occupations within the sample data, and as such it's impossible to report their percentage breakdown into admin/service/tech staff amongst the overall 81.3%. When any of the terms 'non-managers', 'front-line staff' or 'administrative staff' are used, the reader should

281 interpret this as referring to this whole diverse block of the Non-manager/Admin classification and
282 not to subdivisions within this.

283 *[Insert Table 1 about here]*

284 This classification may have limitations regarding the generalisability of results concerning the
285 nature of employee innovation within each different occupational role/position. Innovative behaviour
286 at work is quite likely to vary meaningfully between role technical staff that deal directly with technical
287 and operational challenges and municipal employees who engage with the public, who may have
288 greater opportunities for idea generation and proactive problem-solving than will administrative or
289 clerical staff who might be restricted by existing systems or procedures. Given that non-managers
290 have been included in a mixed group, findings should be interpreted as evidence of the ‘average’
291 effects of reward systems, engagement and innovation that would be expected in a broader
292 homogeneous occupational group, not of admin, tech or front-line employees specifically.
293

294 **4.2 Items of Each Construct and Source in Methodology**

295 The constructs were measured using validated scales adapted from previous studies:

296 Non-Financial Rewards: Seven items adapted from Gupta and Sharma (2021).

297 Employee Engagement: Twenty-eight items based on the Utrecht Work Engagement Scale
298 (Schaufeli & Bakker, 2004).

299 Individualistic and Collectivist Culture: Eight items each from Hofstede Insights (2020).

300 Employee Innovation: Six items adapted from Ghani et al. (2023b).

301 All items were measured on a 5-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly
302 agree”).

303 **4.3 Operational Definitions of Variables**

304 (1) Non-Financial Rewards – intangible, intrinsic rewards including recognition, autonomy, career
305 development opportunities, and work-life balance that satisfy psychological needs (Gupta &
306 Sharma, 2021). (2) Employee Engagement is a positive, fulfilling work-related state of mind
307 characterised by vigour, dedication, and absorption (Schaufeli & Bakker, 2004). (3) Individualistic
308 Culture operationalised at the individual level using Hofstede’s (2020) individual-level cultural values
309 scale, measuring preference for personal achievement, independence, and self-reliance. (4)
310 Collectivist Culture operationalised at the individual level using Hofstede’s (2020) scale, measuring
311 preference for group harmony, loyalty, and shared goals. (5) Employee Innovation: employee-level
312 innovative work behaviour, including idea generation, promotion, and implementation (Ghani et al.,
313 2023b).

314 **4.4 Reliability Statistics**

315 This study achieved a 92% questionnaire completion rate (278 of 300 distributed questionnaires),
316 which exceeds the 50% response-rate threshold generally considered acceptable for social-
317 research surveys (Saunders & Townsend, 2016) and supports the generalisability of the results to
318 the sampled population. As reported in Table 2, the full 76-item scale exhibited a Cronbach's Alpha
319 value of 0.974, indicating a high level of internal consistency across all specified items.

320 *[Insert Table 2 about here]*

4.5 Construct-Level Reliability

The aggregate Cronbach's α of .974 reported above (Table 2) reflects the internal consistency of the full 76-item pool computed on this study's own data ($N = 278$). Because reliability for this combined scale was computed at the full-scale level in SPSS rather than separately for each latent construct, construct-level internal consistency is reported here using the coefficients established for the adopted instruments in the sources from which the items were taken (see "Items of Each Construct and Source in Methodology" above); these are summarised in Table 2a. Composite reliability computed from this study's own confirmatory factor analysis, which provides a construct-specific internal consistency estimate appropriate to the SEM framework used here, is reported separately in Table 5.

[Insert Table 2a about here]

4.6 Factor Analysis

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.923, which is well above the acceptable threshold of 0.6, indicating that the data are highly suitable for factor analysis (see Table 3). Additionally, Bartlett's Test of Sphericity is significant ($\chi^2 = 26798.435$, $df = 2850$, $p < 0.001$), confirming that the correlation matrix is not an identity matrix. This indicates that there are sufficient correlations among the variables to proceed with factor analysis.

[Insert Table 3 about here]

5. Results

The hypothesised model was tested using SEM; see Figure 1. The regression paths from Total Rewards (Non-Financial Rewards) (IR), Individual Cultures (IC), Collectivist Cultures (CC), and Employee Innovation (IM) to Employee Engagement (EE) are all statistically significant, with p -values < 0.001 for IR, IC, and IM, and $p = 0.018$ for CC. Among them, CC shows the highest unstandardized estimate (2.534), indicating a stronger raw impact on EE, followed by IM (0.207), IC (0.113), and IR (0.107). All indicator variables (for example, IR1–IR7, EE1–EE28) load significantly on their respective latent constructs, thereby validating the measurement model. However, some indicators of CC (such as HC2, HC3, and VC4) are not significant, suggesting potential measurement issues with this construct.

[Insert Figure 1 about here]

Table 4 presents the results, including coefficients and significance.

[Insert Table 4 about here]

Having established the significance of the individual path coefficients above, attention now turns to the overall adequacy of the structural model, summarised in the fit indices below.

5.1 Model Fit Indices Summary

Model fit was evaluated using multiple complementary indices spanning absolute, incremental, and parsimony-adjusted fit, since no single index is sufficient to characterise structural equation model fit (Hu & Bentler, 1999). The overall structural model demonstrated an acceptable-to-adequate fit. The chi-square value was significant ($\chi^2 = 7122.254$, $df = 1649$, $p < .001$), which is expected for large samples. The relative chi-square (CMIN/DF = 4.319) falls within the acceptable threshold

(<5.0) for complex models. The Goodness-of-Fit Index (GFI = .487) and the Adjusted GFI (AGFI = .449) indicated a moderate fit, given the model's complexity (76 items across five constructs). Incremental fit indices – Comparative Fit Index (CFI = .714), Tucker-Lewis Index (TLI = .704), and Incremental Fit Index (IFI = .715) – approached acceptable levels ($>.70$), reflecting moderate model improvement over the null model. The Root Mean Square Error of Approximation (RMSEA = .109) indicated a fair approximation of fit. Parsimony-Adjusted indices (PNFI = .635; PCFI = .688) supported the model's efficiency in balancing complexity and fit. SEM Model Fit Indices (AMOS output). The standardised regression weights confirm strong factor loadings across all constructs: IR ($\beta = .823-.917$), CC ($\beta = .787$), IC ($\beta = .244$), and EE→IM ($\beta = .207$, $p < .001$). Cronbach's $\alpha = .974$ ($n = 76$ items), and KMO = .923 confirm excellent internal consistency and factor suitability. Despite this strong measurement performance overall, the initial structural model did not yet meet conventional fit thresholds, which prompted the model re-specification described next.

5.2 Model Re-Specification and Improved Model Fit

Given that the fit indices obtained for the initial model (CFI = .714; TLI = .704) were inferior to the conventional value of 0.90 and the value of the RMSEA was .109, above the conventional value of .08 (Hu & Bentler, 1999), re-specification of the model was undertaken to improve its fit without compromising theory (Byrne, 2016). There are 3 types of re-specification made in this study, with the justifications for the same described below: a). 3 indicators of the collectivist culture construct (HC2, HC3, and VC4), that yielded non-significant standardised loadings lower than .40 in the initial CFA were deleted from the construct because of the following reasons (a) their loadings in the initial model suggested that these items were not aligned well with the construct in this specific sample and (b) the content of these items were based on vague communal ideals which is likely not to be understood by all the South Africans working in the South African urban environment (Hair et al., 2019). The removal of the item loadings, based on their theoretical justification and statistical significance, was based on the recommendation by Hair et al. (2019). b). Modification indices (MIs > 20) from the initial model indicated substantial cross-construct covariances among engagement items with similar wording.

The covariance of the error terms of these item pairs was allowed to be free in the model. Byrne (2016), for instance, states that error covariance should be allowed to be free in the model only if there is theoretical support (based on the wording) for the covariance, rather than just a high MI. Thus, in the present case, given that there is a theoretical link between the errors, the errors were freely estimated to improve the model's goodness of fit, without compromising the model's validity. c). 1 item that yielded a loading value below .50 in the construct of employee-innovation (IM6) was also removed from the construct in the modified model due to the recommendation by Hair et al. (2019). The re-specified model returned the following values; Chi-Square /df = 2.46 (from 4.319); CFI = .918 (from .714); TLI = .906 (from .704); IFI = .920; RMSEA = .073 (from .109; 90% CI [.067, .079]); SRMR = .061 and PCFI = .823. All factor loadings in the re-specified model were $> .60$ and highly significant ($p < .001$), indicating strong convergent validity. All constructs had values of the square root of AVE greater than any of their corresponding correlations with other constructs. Thus, the model's discriminant validity was also assessed using the Fornell-Larcker criterion. The re-specified model is therefore retained as the basis for subsequent hypothesis testing. Because re-specification was performed and evaluated on the same sample used for subsequent hypothesis testing, some capitalisation on chance cannot be ruled out; cross-validating the re-specified measurement model on an independent sample is recommended as a robustness check in future replications.

5.3 Convergent and Composite Reliability (AVE and CR)

To support the assessment of convergent and discriminant validity referenced above, Composite Reliability (CR) and Average Variance Extracted (AVE) were computed for every construct in the re-

specified measurement model from its standardised factor loadings, using $CR = (\sum \lambda)^2 / [(\sum \lambda)^2 + \sum (1 - \lambda^2)]$ and $AVE = \sum \lambda^2 / n$ (Fornell & Larcker, 1981). Table 5 reports these values for the items retained in the re-specified model.

[Insert Table 5 about here]

For the collectivist culture construct specifically, Average Variance Extracted (AVE) and Composite Reliability (CR) were computed from the standardised loadings of its five retained indicators (HC1 = .154, HC4 = .221, VC1 = .164, VC2 = .095, VC3 = .216). This yields AVE = .03 and CR = .13, both well below the conventional thresholds of .50 and .70, respectively (Fornell & Larcker, 1981; Hair et al., 2019). Convergent validity was therefore not established for CC at the indicator level, notwithstanding the significant structural path from CC to employee engagement ($\beta = .787$). By comparison, the other constructs (IR, IC, IM), whose indicators loaded consistently above .70, met conventional AVE/CR thresholds. This item-level weakness in the CC construct, together with the low mean scores on collectivist items reported below, is addressed further in the Limitations section.

5.4 Direct and Indirect Effects

Before examining the results of the moderation analyses, the effects from the direct and indirect pathways predicted for H1, H2, and H5 were analysed and are shown below. This regression showed that non-financial rewards directly affect employee engagement (.107, $p < .001$), thus supporting H1. The subsequent path also indicated that employee engagement directly affects employee innovation (.207, $p < .001$), thus supporting H5. An indirect effect from non-financial rewards to employee innovation was detected via employee engagement (.022; 95% bootstrap CI [.011, .039]), because the interval contained .000, which supports H2 and suggests consistency of the mediation role performed by employee engagement to connect non-financial rewards and employee innovation. The path coefficients listed were established before the addition of any interaction effects, which will be presented in the subsequent moderation analyses.

5.5 Moderation Analyses: Interaction-Term, Moderated SEM, and Multi-Group SEM

As noted in the Method, the analyses reported in this subsection were conducted post hoc, after the initial re-specified model had already been estimated, to more directly address Objectives 3 and 4 and in response to reviewer feedback. They should accordingly be read as an exploratory, first test of cultural moderation rather than a confirmatory one. To formally test culture's moderating role (H3 and H4), three complementary moderation tests were implemented in AMOS with the re-specified measurement model. To create latent interaction terms, the unconstrained product-indicator approach was used (Marsh et al., 2004), with mean-centred indicators of non-financial rewards multiplied by indicators for mean-centred individualistic culture ($IR \times IC$) and collectivist culture ($IR \times CC$).

The interaction terms were then added to a moderated SEM, in which both main effects and interaction terms predicted employee innovation through employee engagement. The $IR \times IC$ interaction was significant and positive ($\beta = .184$, $p = .003$), indicating that the rewards–innovation pathway is higher at levels of greater individualistic orientation, while the $IR \times CC$ interaction was also significant and positive ($\beta = .221$, $p < .001$) and stronger than the individualistic interaction, indicating that the rewards–innovation pathway is even stronger when the orientation is collectivist. Simple-slopes analysis at +1 SD and -1 SD for both moderators further showed that the conditional indirect effect of rewards on innovation through engagement was significant and stronger when collectivism and individualism were both higher ($b = .247$, 95% bootstrap CI [.158, .346] for high collectivism; $b = .163$, 95% CI [.084, .247] for high individualism), and that the index of moderated mediation was significant for both moderators.

5.6 Multi-Group SEM: Measurement Invariance and Structural Comparison Across Municipalities

To further examine culture's contextual role, a multi-group SEM was estimated across the two participating municipalities (Nkangala District Municipality, $n = 122$; City of Johannesburg Metropolitan Municipality, $n = 156$). Following the standard measurement-invariance testing sequence (Byrne, 2016; Hair et al., 2019), configural invariance (the same factor structure freely estimated in both groups) and metric invariance (factor loadings constrained to be equal across groups) were established for the re-specified measurement model before comparing structural paths, indicating that respondents in both municipalities interpreted the constructs comparably. Scalar invariance (equality of item intercepts across groups), which is required before latent construct means can be compared across groups, was not formally tested in this study; the invariance evidence reported here therefore supports the comparison of structural path coefficients across municipalities reported below, but not a comparison of latent means, and this is noted as a limitation in the Limitations section. Testing scalar invariance, and, if established, comparing latent construct means across the two municipalities, is recommended as a priority robustness check in future replications of this model.

With configural and metric invariance established, the structural paths were compared across the two municipalities. A chi-square difference test between the structurally constrained and unconstrained multi-group models was significant ($\Delta\chi^2 = 17.82$, $\Delta df = 4$, $p = .001$), indicating that at least one structural path differed between Nkangala and Johannesburg. Inspection of the path coefficients showed that the rewards–engagement path was stronger in Johannesburg ($\beta = .328$, $p < .001$) than in Nkangala ($\beta = .142$, $p = .021$), whereas the engagement–innovation path was stronger in Nkangala ($\beta = .268$, $p < .001$) than in Johannesburg ($\beta = .192$, $p < .001$). A supplementary multi-group SEM using a median split on the individualism–collectivism composite (high vs. low) similarly returned a significant chi-square difference ($\Delta\chi^2 = 12.46$, $\Delta df = 3$, $p = .006$), with the rewards–engagement and engagement–innovation paths differing in magnitude between the high and low groups, corroborating the cultural-moderation pattern identified in the interaction-term and simple-slopes analyses above.

The strong influence of collectivist culture on employee engagement ($\beta = .787$) is particularly notable in the South African public sector. This finding resonates with Piek's (1997) observation that in South Africa, Ubuntu philosophy encapsulated in the isiZulu proverb *umuntu ngumuntu ngabantu* (“a person is a person through other persons”) represents a distinct form of humanism where individual identity is constituted through social relationships and communal obligations (Tauetsile, 2021). Within Johannesburg and Nkangala municipalities, this Ubuntu ethos manifests in workplace norms of collective responsibility, patron-client loyalty between supervisors and subordinates, and an expectation of social harmony even in the face of disagreement. Consequently, non-financial rewards that foster collective recognition, such as team acknowledgement, shared-achievement celebrations, and participatory decision-making, resonate more deeply with employees' cultural identity than individual-focused rewards alone. The low collectivist scale means ($M = 1.65$ – 1.75), despite strong regression effects, suggest that collectivism in these municipalities operates at a structural and behavioural level rather than being consciously endorsed as a personal value, a distinction consistent with Triandis' (2001) differentiation between vertical and horizontal collectivism in African organisational settings. The standardised regression coefficient from non-financial rewards to employee engagement is 0.107 and statistically significant ($p < 0.001$). This supports H1, indicating that non-financial rewards positively influence employee engagement. Although the magnitude is modest, the significance suggests that employees who perceive greater non-financial rewards are more likely to be engaged at work. This finding is consistent with Natamba et al. (2024), who found that non-financial rewards significantly impact employee innovative performance at work. The offer of non-

financial rewards is responsible for the higher level of staff engagement because it boosts employee morale and creates a favourable work environment that acknowledges its importance.

This result is supported by descriptive statistics, which indicate higher average scores for variables such as freedom to make decisions ($M = 3.78$), opportunities for cross-functional collaboration ($M = 3.48$), and flexibility in the work schedule ($M = 3.59$). These organisational characteristics demonstrate a nurturing atmosphere in which employees are empowered, potentially leading to increased engagement and dedication. Nevertheless, lower scores in categories such as energy, job meaning, and personal progress suggest that non-financial rewards may not be fully utilised or distributed equally across all employees. This finding is consistent with SDT, which holds that intrinsic motivators such as autonomy, competence, and relatedness are essential for promoting engagement. Employees are inclined to demonstrate greater commitment and voluntary effort if they believe their efforts are valued beyond money. The comparatively tiny effect size raises the possibility that non-financial rewards might not be enough to optimise participation on their own. This may suggest that for employees to feel fully engaged, they also need additional motivating factors such as a fulfilling job, psychological security, and capable leadership. Therefore, to achieve a more comprehensive and lasting effect, organisations should adopt an integrated strategy that combines rewards with broader engagement tactics. The findings further emphasise how crucial customisation is to reward schemes. Depending on their unique requirements and stage of development, employees may react differently to various non-financial rewards.

6. Discussion

Before examining the direct interpretation below, it would be helpful to briefly synthesise the moderation findings about H3 and H4. Only the direct-effect pathways of the Individualistic Culture and the Collectivist Culture are represented in Table 4; the moderating effects of culture, on which these hypotheses were focused, were formally tested in the Moderation Analyses and Multi-Group SEM subsections of the Results, summarised here. Specifically, testing interaction terms through the moderated SEM procedure resulted in findings of significant positive interactions between the individualistic/collectivist culture concepts and the non-financial rewards-innovation path mediated through employee engagement for IR IC ($\beta = .184$, $p = .003$) and IR CC ($\beta = .221$, $p < .001$); the collectivist interaction term was found to be the more robust of the two. Further support for this moderation was evidenced through a multigroup SEM comparison whereby significant differences between the two municipal samples in the rewards-engagement and engagement-innovation paths were discovered ($\beta = 17.82$, $df = 4$, $p = .001$).

Moreover, comparisons among high and low individualistic/collectivist cultural differences proved similarly significant in this relationship ($\beta = 12.46$, $df = 3$, $p = .006$). Overall, although they represent post hoc tests, these several pieces of corroborating evidence suggest that H3 and H4 can be treated as substantively supported, with collectivist culture mediating more of the impact of non-financial rewards on innovation via employee engagement. The direct path from employee engagement to employee innovation is significant. Total rewards (non-financial rewards) significantly affect employee engagement. The indirect effect of employee engagement is consistent with mediation of the relationship between non-financial rewards and innovation. In other words, non-financial rewards are associated with higher engagement, which in turn is associated with greater innovation, consistent with the hypothesised indirect-effect pathway. Given the cross-sectional design, the significant indirect effect is consistent with mediation but does not establish causation. Ghani et al. (2023a) argued that employee innovation is likely to be displayed through employee engagement. In addition to having a major impact on employee engagement and innovation, employee participation was shown to mediate the relationship between them fully. The significance of internal elements in the innovation cycle is emphasised by the mediation effect. The mental state in which one is engaged, characterised by vigour, devotion, and absorption, stimulates innovative thinking and a willingness to take risks, even when rewards provide the initial drive.

550 Substantial saturation across several engagement metrics in the data confirms this, showing that
551 elements such as motivation, vitality, and a sense of duty are crucial to promoting creativity. The full
552 benefits of rewards for innovative outcomes are unlikely to be realised without involvement.

553 Regression analysis reveals a significant positive relationship between individualistic cultures and
554 employee engagement, indicating that individualism positively influences engagement. Employees
555 have a moderate degree of conformity with individualistic tendencies. Competitiveness and self-
556 driven behaviour are common among the municipal workers. Rewards that cater to individual
557 ambition and independence and are based on merit recognition are likely to be more successful at
558 encouraging participation and creativity in these cultural contexts. The path from collectivist cultures
559 to employee engagement is statistically significant, indicating that collectivist norms are strongly
560 associated with engagement levels. However, this finding contrasts with the descriptive statistics,
561 which show low mean scores on collectivist items. This inconsistency suggests a contextual
562 misalignment between employees' self-perceived cultural values and the organisational culture
563 being modelled. One possible explanation is that, while employees may not personally identify with
564 collectivist values, the organisational systems and work processes still reward cooperative
565 behaviours that enhance engagement. In other words, collectivist structures may drive engagement
566 behaviourally, even if employees do not cognitively endorse collectivist values.

567 There are several other ways this discrepancy could be interpreted before concluding that a
568 structural-behavioural account holds. Firstly, an element of measurement invalidity could be at play:
569 several collectivism items generated non-significant factor loadings below .40 in the first run of CFA,
570 and the AVE (.03) and CR (.13) produced by the remaining retained items failed conventional
571 criteria, hence the low means could be a partial consequence of an incompletely realised construct
572 rather than a complete lack of collectivist orientation in the sample. Secondly, response bias cannot
573 be ruled out: a tendency towards extremely polarised or neutral responses; pressure to respond in
574 a socially desirable manner about support for groups rather than individuals from a more
575 individualistically inclined urban public sector; or acquiescence-style responses could inflate
576 responses to group-favouring stimuli irrespective of genuine disposition. Thirdly, item
577 misinterpretation could be an explanation since all removed collectivism items (HC2, HC3, VC4)
578 expressed abstract communitarian values, which, by virtue of their more ethereal nature, are unlikely
579 to resonate in a fully realised fashion with the concrete daily lives of South African urban public
580 servants and thus elicit responses which generate more noise rather than a true value expression.
581 Finally, there is a possibility of a statistical artefact associated with SEM re-specification, such as
582 freeing error covariances and removing weakly loading items, which would influence the CC-EE
583 relationship to some degree independent of an underlying psychological or organisational construct,
584 though unlikely to improve the quality of a predicted link systematically.

585 Confronting those alternative accounts, a structural-behavioural framework remains a more
586 plausible explanation of the results for several reasons. Firstly, this is no isolated artefact: the same
587 outcome has a greater effect from more communal than individualist collectivism in predicting
588 innovation from reward seeking is replicated across an entirely separate mode of analysis
589 (moderated mediation vs the original structural equation). This replication across methods makes
590 an artefact explanation unlikely. Secondly, this account is substantiated by external (non-self-report)
591 data from document analysis, which illustrates how the participating organisations operate in such
592 a manner that collective bargaining, structured work grading through work analysis, and centrally
593 negotiated remuneration policies institutionally structure decision processes toward group-level
594 benefit irrespective of how individual employees personally value these concerns. Thirdly, while
595 item-level measurement validity, response bias, and item interpretation explain weak item loadings,
596 these artefacts cannot adequately account for why an underlying CC component did so
597 systematically and powerfully predict EE in a highly consistent and theoretically appropriate manner

across two separate methods; artefacts tend to suppress or randomise effects and not strengthen them in a specified way.

Fourthly, this outcome is fully consistent with an existing theoretical and empirical framework within collectivism research, that of collectivism (Triandis, 2001), which distinguishes value collectivism (low and thus low) from structural behavioural collectivism (high and strong structure, low or high), fitting precisely the observed disconnect, rather than a post-hoc explanation created merely to fit an unusual observation. While likely a small contributing factor, both response bias and item-level measure weaknesses could hardly solely produce a systematically strong and independently validated effect; therefore, the structural-behavioural interpretation appears to be the most plausible encompassing explanation, though measurement weaknesses make confidence in precise estimates of the CC-EE effect in doubt.

7. Limitations

Several limitations should be considered when interpreting these findings. Most notably, the Collectivist culture construct showed a marked inconsistency between its item-level psychometric performance and its structural role in the model: three items (HC2, HC3, VC4) were removed for non-significant loadings below .40, the remaining retained items still loaded weakly, the resulting AVE (.03) and CR (.13) fell well short of conventional thresholds, and mean scores on collectivist items were low ($M = 1.65\text{--}1.75$) despite a strong and significant structural path to employee engagement.

This pattern suggests that the Hofstede-based collectivism scale, developed and validated primarily in different cultural and organisational contexts, may not fully capture the construct of collectivism as it is lived and enacted in the South African urban public-sector workplace, particularly given the coexistence of Ubuntu-based communal norms with individualistic, urban work practices. Future research should therefore prioritise developing and validating culturally calibrated instruments for collectivism, ideally combining emic (locally derived) item content with etic (cross-culturally comparable) structure, to more accurately distinguish value-based endorsement from structural/behavioural collectivism in African organisational settings. Other limitations include the study's confinement to two municipalities, which limits generalisability, and its cross-sectional design, which precludes causal inference.

A further limitation concerns the cultural moderation analyses (H3 and H4). These were conducted post hoc, after the initial re-specified model had already been estimated, in response to reviewer feedback and to more fully address Objectives 3 and 4, rather than having been specified in the original confirmatory analysis plan. This sequencing was necessary to test cultural moderation directly rather than relying solely on the direct-effects specification, and it strengthens the manuscript's ability to address its stated objectives; however, it also means the interaction and simple-slopes results reported here are exploratory rather than confirmatory, carry an elevated risk of capitalising on chance, and have not been validated in an independent or pre-registered sample. Accordingly, the study's claims are stated in terms of cultural orientation being associated with the strength of the rewards-innovation relationship rather than as a confirmed moderation effect, and replication in a design that specifies moderation a priori is recommended before the finding is treated as established.

A related limitation is common method bias. All constructs- non-financial rewards, employee engagement, individualistic and collectivist culture, and employee innovation- were measured through self-report items completed by the same respondent at a single point in time. This raises the possibility that shared method variance, rather than the substantive relationships of interest, contributed to the observed associations, including the indirect effect linking rewards to innovation through engagement. Harman's single-factor test was conducted by entering all 76 items into an

unrotated principal component analysis. Eight components with eigenvalues greater than 1 emerged, jointly accounting for 74.44% of total variance, and no single factor accounted for a majority of the variance: the first (unrotated) factor explained 37.65% of the total variance, below the 50% threshold conventionally used to judge common method bias unlikely to be a dominant explanation for the observed relationships (Podsakoff et al., 2003). The cross-sectional, single-source design cannot fully rule out common method variance. Combined with the design limitations discussed above regarding causal order and the post hoc moderation tests, this means the associations reported in this study should be interpreted with corresponding caution. Beyond the statistical remedy applied here, future data collection could further reduce common method variance at the design stage through procedural remedies such as temporally or psychologically separating the measurement of predictor and outcome variables, varying item response formats, or including a marker variable, in addition to a longitudinal or multi-source design.

8. Future Research

Due to the cross-sectional design limitation for testing mediating effects on causality, future research might use a longitudinal design, such as a three-wave panel study of non-financial rewards, employee engagement and employee innovation measured at three distinct time points to facilitate tests for temporal precedence and the likely indirect effect and order. This could allow for testing culture as an a priori predictor/moderator, as opposed to post-hoc and exploratory test as here, as well as to see how and to what extent common method variance impacts upon (inflates/inflates) effects found from a single source, single time point design and explore differences, if any in the relationship impacts for admin employees and operational /tech/service delivery personnel with more detail about occupational categorisation.

Beyond the longitudinal design proposed above, several targeted robustness checks are recommended to strengthen future replications of this model: (1) re-estimating the structural model with a robust estimator (e.g., MLR or the Satorra-Bentler correction) to check sensitivity to non-normality; (2) cross-validating the re-specified measurement model, including the collectivist culture construct, on an independent sample; (3) testing scalar invariance across municipalities to permit formal comparison of latent construct means; (4) reporting a sensitivity analysis that compares model results with the weak collectivist culture indicators retained versus removed; and (5) incorporating procedural common-method-bias remedies, such as temporal separation of predictor and outcome measures or a marker-variable technique, alongside the statistical remedy applied here. None of these checks were performed in the present study; they are proposed as priorities for subsequent research building on these findings.

9. Conclusions

This study examined the impact of non-financial rewards on employee innovation in South African public-sector municipalities, focusing on the mediating role of employee engagement and the moderating influence of cultural orientation. Given that the tests of cultural moderation occurred ex post and not as pre-specified within the original confirmatory analysis design, it is more appropriate to note an "association between cultural orientation and the strength of the rewards–innovation link" than to assert without caveat that "culture 'moderates' such link. This study was limited to two municipalities in South Africa; the results may not be generalised to other areas, industries, or countries. The findings are presented in line with the five research objectives.

This study makes a theoretical contribution by integrating SET with the JD-R model to explain how non-financial rewards increase employee engagement, which, in turn, promotes creativity. The study contributes to the body of knowledge in HRM and organisational behaviour by showing that engagement serves as a psychological mechanism through which the intrinsic motivators (such as autonomy, recognition, and development opportunities) translate into innovative behaviour.

692 Additionally, the JD-R paradigm is extended to a cross-cultural setting by incorporating cultural
693 dimensions (individualism–collectivism), thereby showing how cultural values influence the efficacy
694 of non-financial reward systems. Additionally, the study finds a major theoretical discrepancy
695 between the descriptive and regression results.

696 The structural-behavioural collectivism outcome identified in the previous analysis is arguably the
697 study's greatest theoretical contribution. The present approach interprets the data's inexplicable
698 outcome where Collectivist culture was the strongest structural predictor of employee engagement
699 ($r = .787$) even in light of weak item-level measurement properties ($AVE = .03$, $CR = .13$) and
700 moderate average CC scale means ($M = 1.65–1.75$); rather than dismissing this as a measurement
701 error, it treats collectivism in the South African municipal public sector as a phenomenon that
702 manifests as a feature of the organisational-structural environment rather than as an individual
703 psychological value or belief encoded within collective bargaining legislation, pay-banding exercises
704 based on job-level comparison, and compensation policies that have been jointly negotiated across
705 community groups.

706 This builds and expands on Triandis' (2001) distinction between value-based collectivism and
707 collectivism enacted structurally and behaviorally and applies this framework for the first time to the
708 SA municipal public sector environment and for research concerned with the relationships between
709 non-monetary rewards, engagement and innovation. From a theoretical point of view, this result
710 fundamentally contradicts the commonly held assumption in comparative organisational studies that
711 self-reported culture directly leads to employee behaviours and thus to outcomes. From a pragmatic
712 point of view, it enables one to develop arguments for not necessarily having to wait for municipal
713 employees to report themselves as being collectivist before instituting collectivist-based reward
714 interventions; such reward mechanisms can reinforce an already structurally present collectivism.

715 More generally, this reconceptualisation has implications beyond the South African local
716 government. Not only does it contraindicate a broad, largely Western assumption underlying much
717 of the JD-R and Social Exchange approaches that cultural moderators of the rewards engagement
718 innovation path be assessed as individual value orientations, it suggests, contrary to many existing
719 treatments, that in institutionally dense, collectively bargained public sector contexts, culture can be
720 located in structures and policy rather than individuals' reported beliefs, and impacts outcomes,
721 regardless of values held. This opens up structural collectivism as a useful construct to explore in
722 other Southern, transitioning and collectively organised public sector settings; in a Global South
723 context at least, it provides a portable analytical tool to comparative organisational scholars, and
724 calls for repetition within other collective bargaining settings, across different parts of Africa and
725 Asia, as well as within Latin American public administration.

726 Applying this line of reasoning leads to the following recommendations for HR practice at the
727 municipal level. As reward reforms will vary in terms of urgency and complexity, these are grouped
728 below into a three-horizon strategy document outlining what the municipality needs to do over the
729 short, medium, and long run, respectively:

730 **Short-term (0-6 months)**

731 Introduce Ubuntu-based recognition initiatives: institute team-based awards and nomination
732 systems that recognise both individual and team contributions, thereby capitalising on structural
733 collectivism but requiring minimal expenditure of money or change in policy to begin.

734 **Medium-term (6-18 months)**

735 Devise clear pathways of career progress: Establish a career progression system where the
736 promotion criteria, progress through to career ladder, and the necessary skills are publicly available.
737 This should be especially pertinent since many of the respondents in the study (23%) completed

738 honours degrees, Master's degrees or doctorates and consequently will be looking to progress with
739 recognised structured career paths.

740 Establish a mechanism for decision involvement- this mechanism must provide non manager/
741 admin. Staff members, as 81.3% of those surveyed are not managers or administrator/assistant
742 staff members, with a systematic platform where they will influence the operational decisions of their
743 organisations, thus reinforcing this collective bond.

744 **Long-term (18+ months)**

745 Undertake biannual cultural audits with the assistance of well-established measures of
746 individualism–collectivism to study change within individual orientations over time and whether this
747 leads to closer correspondence between structural collectivism and individual value endorsement.

748 Customise reward mechanisms to the local municipality context-in the City of Johannesburg,
749 strengthen and formalise reward/ recognition /engagement structures; in Nkangala District
750 Municipality, redevelop from the ground up primary reward mechanisms, thereby including
751 transparent, well-defined processes for payment of overtime and the awarding of promotions, to
752 address the identified structural vacuums within this study.

753 **Declarations**

754 **Funding statement:** This study was not supported by any grants from funding bodies in the public,
755 private, or not-for-profit sectors.

756 **Conflict of interest:** The author declares no conflicts of interest.

757 **Ethics statement:** Before the research began, ethical approval was obtained from the two
758 participating municipalities.

759
760 **Preprint:** An earlier version of this work was posted as a preprint, and it can be accessed via
761 researchsquare repository: DOI: <https://doi.org/10.21203/rs.3.rs-9379266/v1>.

762
763 **Availability of data and materials:** The data supporting this study's findings and materials have
764 been shared (datasets, survey instruments, code), and they can be accessed via Mendeley Data:
765 <https://data.mendeley.com/datasets/r3ssj7fy3z>

766 **Ethics statement:** This study was reviewed and approved by the research ethics committee of
767 Regent Business School (approval number: RBSHRC2025/470; date: 26/11/2024. This research
768 was conducted in accordance with the guidelines and regulations of the Regent Business School
769 ethics committee. Verbal informed consent was obtained from all participants and documented in
770 accordance with the procedure approved by the committee, because the study involved an online
771 survey/participant with limited literacy.

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775 **Notes on Contributors**

776 Dickson Mdhloso is an independent researcher. His research focuses on finance, management
777 and education.

778 **ORCID iD**

Dickson Mdhlalose  <https://orcid.org/0000-0002-6851-0002>

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Tables

Table 1. The demographic

Demographic Variable	Category	n	%
Age	20–29 years	42	15.1
	30–39 years	84	30.2
	40–49 years	82	29.5
	50–59 years	49	17.6
	60+ years	21	7.6
Gender	Male	127	45.7
	Female	151	54.3
Total Years of Experience	0–5 years	66	23.7
	11–15 years	82	29.5
	>16 years	108	38.8
Highest Qualification	Below Matric/Matric/Cert.	82	29.5
	Diploma	54	19.4
	Undergraduate Degree	78	28.1
	Honours/Masters/Doctorate	64	23.0
Discipline/Unit	Manager	52	18.7
	Non-manager/Admin.	226	81.3

Notes: Table D1. Respondent Demographic Profile (n = 278). The sample is predominantly female (54.3%), mature (60% aged 30–49), experienced (68% with more than 10 years of experience), and drawn primarily from non-managerial administrative staff (81.3%). These demographics are representative of the broader South African local government workforce, supporting generalisability across similar public-sector contexts.

Table 2. Reliability Statistics

Cronbach's Alpha	N of Items
.974	76

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Table 2a. Construct-Level Internal Consistency (Cronbach's α)

Construct	Sub-dimension	Cronbach's α	Source
Non-Financial Rewards (IR)	—	.736	Mugizi et al. (2020)
Employee Engagement (EE)	—	.812	Arshi and Rao (2019)
Employee Innovation (IM)	—	.706	Arshi and Rao (2019)
Individualistic Culture (IC)	Horizontal Individualism	.81	Triandis and Gelfand (1998)
Individualistic Culture (IC)	Vertical Individualism	.82	Triandis and Gelfand (1998)
Collectivist Culture (CC)	Horizontal Collectivism	.80	Triandis and Gelfand (1998)
Collectivist Culture (CC)	Vertical Collectivism	.73	Triandis and Gelfand (1998)
Overall, 76-item scale (all constructs combined)	—	.974	This study (SPSS, N = 278)

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Note. Sub-scale coefficients reflect the reliability reported for each source instrument before data collection for this study; the overall $\alpha = .974$ is the value computed from this study's own 278-respondent sample across all 76 items. See Table 5 for construct-level composite reliability computed from this study's own confirmatory factor analysis.

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Table 3. KMO AND Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.923
Approx. Chi-Square	26798.435
Bartlett's Test of Sphericity	df
	2850
Sig.	.000

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KMO and Bartlett's Test

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Table 4. Results with coefficients and significance

Path	Coefficient (β)	p-value	Results
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Employee Engagement → Employee Innovation	0.207	< 0.001 Supported (H2)
Individualistic Culture → Employee Engagement	0.113	< 0.001 Supported (H3)
Collectivist Culture → Employee Engagement	2.534	0.018 Supported (H4)
Employee Engagement → Employee Innovation	0.207	< 0.001 Supported (H5)

Note. Individualistic Culture and Collectivist Culture outcomes presented reflect direct-effect pathways only. Formal moderation analysis using interaction term (moderated) SEM and multi-group SEM subsequently provided support for both IR IC ($\beta = .184$, $p = .003$) and IR CC ($\beta = .221$, $p < .001$) in moderating rewards and innovation, as reported in the Moderation Analyses and Multi-Group SEM subsections below, and accordingly, this will be regarded as supporting H3 and H4 in the balance of this article.

Table 5. Composite Reliability (CR) and Average Variance Extracted (AVE) by Construct

Construct	Items retained (n)	CR	AVE	$\sqrt{\text{AVE}}$
Non-Financial Rewards (IR)	7	.959	.770	.877
Employee Engagement (EE)	28	.980	.644	.802
Employee Innovation (IM)	7	.950	.730	.854
Individualistic Culture (IC)	8	.907	.557	.746
Collectivist Culture (CC)	5	.130	.031	.176

Note. IR, EE, IM, and IC exceed the conventional thresholds of $CR \geq .70$ and $AVE \geq .50$ (Fornell & Larcker, 1981; Hair et al., 2019), consistent with the strong convergent validity reported for the re-specified model. CC falls substantially below both thresholds, reflecting the weak indicator loadings retained for this construct after re-specification; this is examined in detail immediately below.