

Adaptation and Standardisation of Individual Work Performance Questionnaire among Public Sector Undertaking Employees in India

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ABSTRACT

Accurate measurement of individual work performance is fundamental to organisational research and human resource management. The Individual work performance questionnaire was designed by Linda Koopman et., al in 2014. It is used to judge the job performance of an individual across 3-dimensions; Task performance, Contextual performance and Counter-productive work behaviour. This study aimed to adapt and validate the Individual Work Performance Questionnaire (IWPQ) for use among employees in the Indian public-sector undertakings (PSU). The questionnaire was culturally adapted following established translation and adaptation procedures to ensure linguistic and contextual relevance. Data were collected from 219 employees comprising executives and workmen from a large PSU. Content validity was established through expert evaluation of the adapted items. Reliability analysis demonstrated satisfactory internal consistency across the three dimensions of work performance. Construct validity was examined through factor-analytic procedures, supporting the multidimensional structure of the instrument. The adapted scale retained the dimensions of Task Performance, Contextual Performance, and Counterproductive Work Behaviour. The findings indicated that the adapted IWPQ possesses acceptable psychometric properties for assessing employee performance in the Indian PSU context. The instrument provides researchers and practitioners with a reliable and valid measure of individual work performance. The study contributes to the cross-cultural validation of performance assessment tools and supports their application in organizational research and practice.

Keywords: Job performance, Indian Public Sector Undertakings, PSUs, IWPQ, Task performance, Contextual performance, Counter-productive work behaviour, CPWB, Koopman's Individual work performance questionnaire, loanword integration, lexical embedding

The performance appraisal mechanism allows an organisation to measure an individual employee's accomplishments over a specific time-period (DeVries *et al.*, 1981). These formal performance appraisals have become very important administrative decision-making tool in modern large organisations. The purpose of performance appraisal is employee

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development and feedback (Fedor, 1991, p. 234). Research has proved that individuals are motivated to seek feedback to reduce uncertainty and self-evaluate themselves. Substantial improvements in performance can be achieved based upon genuine feedback.

These formal systems of feedback or performance evaluation entail huge benefits if they are designed and utilised correctly (Cleveland, Murphy & Williams, 1989). These mechanisms facilitate organisational decisions such as reward distribution, promotions, transfers, and layoffs. These also help the Individual worker to decide about the career choice and subsequent direction of individual time and effort.

In the recent past, considerable research across varied fields like industrial organisational, management and health psychology has been devoted to discover predictors of Individual Work Performance (IWP). The first definition of IWP comes from Campbell (1990, p. 704) as “behaviours or actions that are relevant to the goals of the organisation.”

This could be due to the traditional focus of the scientists on the task performance; which could be defined as “the proficiencies with which individuals perform the core substantive or technical tasks central to his or her job” Campbell (1990, p. 708). Borman & Motowidlo, (1993) expanded this definition by emphasising that job performance should be defined in terms of behaviour rather than results. These proficiencies could be measured as work quality, work quantity, job skills and job knowledge (Rotundo & Sackett, 2002, p.67). This may also include the plans and final completion of the assigned work. Problem solving and updating own knowledge about the task at hand can also be included in the measurables for task performance. This can also be called as the individual’s personal contribution to the organisational performance.

However, for a long time only task performance was considered as the single most important dimension required to measure IWP. This over-simplification of complex human behaviour measurement was corrected gradually. Further, research into study of IWP revealed that it is a multi-dimensional construct (Borman & Motowidlo, 1993).

IWP is now considered to consist of two additional sub-dimensions; Contextual performance and Counter-productive work behaviour (Rotundo and Sackett, 2002; Viswesvaran and Ones, 2002).

Contextual performance can be defined as “behaviours that support the organisational, social and psychological environment in which technical core must function” (Borman & Motowidlo, 1992, p.73). This primarily refers to the social and psychological aspects that are expected out of an employee; How an employee handles the social aspects with co-workers. Contextual performance is different from task performance as these activities are not defined or part of the formal job profile, but it indirectly contributes to organisational performance by facilitating the task performance. Employees can contribute to the contextual performance through many paths; such as, by motivating other employees to have a behaviour which compliments the organisational performance or by maintaining a cohesive work environment which enables other employees to work comfortably.

Counter-productive work behaviour can be defined as “behaviour that harms the well-being of the organisation” (Rotundo & Sackett, 2002, p.69). Such deviant behaviour reduces the

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organisational performance. Deviant behaviour could be carried out by the employees in form of sabotage, withdrawal, production deviance, theft and abuse.

Accordingly, numerous instruments were developed to measure IWP across various fields of psychology. However, out of these Individual Work Performance Questionnaire (IWPQ) developed by Linda Koopmans has emerged as the only one that is based on the three-dimensional model of IWP. It is a generic instrument and therefore can be administered upon workers across multiple occupations (i.e. blue, pink and white collar employees).

It is an 18 – item scale which includes 5-items for task performance, 8-items for contextual performance and 5-items for measuring counter-productive work behaviour. It is generic in nature and can be administered to employees across various industries (Koopmans 2015). As IWPQ is a self-reporting instrument, employees have positive impact on their satisfaction of the fairness of the scoring system. The response options in task and contextual performance are seldom – sometimes – regularly – often – always; with range from 0 to 4. And the response options for counter-productive work behaviour consisted of never - seldom – sometimes – regularly – often, with a range of 0 to 4.

The original IWPQ has been tested and it has good validity. The Cronbach alpha on task performance is .79, on contextual performance if .83 and counter-productive work behaviour is .89. The written permission for use of IWPQ in this research was received through e-mail.

The purpose of this study to culturally adapt the IWPQ, to employees of public sector undertakings in India.

METHOD

Participants

The adaptation process involved professional forward translator and a layman with limited knowledge of organisational psychology but good knowledge of Hindi. Subsequently back translation to English was carried out. Pilot test was carried out on 109 employees across various PSUs in India. The field test was carried out on 219 employees of a PSU engaged in defence manufacturing. The participants were from Executive and Workmen branches.

Adaptation process

The adaptation guidelines provided by Beaton et al. (2000) and by the International Test Commission (ITC) (2017) were followed. The translation process comprised the following stages (1) permission for translating IWPQ into Devnagari/Hindi was duly received from the instrument developers, (2) forward translation of IWPQ into Devnagari/Hindi by two independent translators (T1) & (T2), (3) synthesis of both versions to produce single Devnagari/Hindi translation (T-12), (4) back translation into English by two native speakers who were blind to the original English version and naïve to the job performance concepts BT1 & BT2, (5) cognitive de-briefing of the synthesised version by committee of experts (6) Pre-testing through a pilot was carried out on 30-40 participant PSU employees across multiple domains (7) finalisation of the final adapted version through psychometric validation.

Psychometric validation proceeded as follows: (1) content validity was assessed during the expert review committee stage (Beaton et al., 2000); (2) reliability was tested using Cronbach's α ($\geq .70$), with item-total correlations and alpha-if-item-deleted examined; (3) structural validity was assessed using exploratory factor analysis (EFA); (4) confirmatory

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factor analysis (CFA) was conducted to test the hypothesised three-factor structure, with model fit evaluated using CFI and TLI > .95, RMSEA < .06, and factor loadings > .40.

Translation of the IWPQ

During translation, the term 'supervisor' was retained in the Hindi version as 'सुपरवाइजर' because respondents reported it as more natural than the formal Hindi alternative 'paryavekshak/पर्यवेक्षक.' This reflects the well-documented phenomenon of loanword integration, whereby a foreign term becomes lexically embedded in a recipient language (Faber & L'Homme, 2022, p. 415). This was consistent with recommendations to prioritise semantic and experiential equivalence. The list of various words which were altered to use words being used in normal conversation is as shown in Table 1.

Table 1: Translation Adaptations: English Terms and Hindi Equivalents Used

S.No	English word	Literal hindi translation	Actual word used
1	accurate	Sateek	Sahi/ सही
2	Manage	Prabandhan	Manage/ मैनेज
3.	Up-to-date	Naveentam	Up-to-date/ अप-टू-डेट
4.	Creative	Rachnatmak	Creative/ क्रिएटिव
5.	Positive	Sakaratomak	Positive/ पॉजिटिव
6.	Negative	Nakaratomak	Negative/ नेगेटिव
7.	Scale	Scale	Scale/ स्केल

The IWPQ uses frequency ratings as these require individual to rate, how often did they engage in a particular behaviour. The main issue with such self-reports is that the individual might assess their own performance better than what it actually was (leniency effect) Murphy & Cleveland (1995), p. 138, which leads to ceiling effect in the scale used.

Task/contextual performance used the following response options: (0=seldom, 1=sometimes, 2=often, 3=very often, 4=always). Using “0=seldom” as the lowest category implicitly assumes that total absence of such behaviours is rare in employed populations and that the items target a range from low to very high positive performance. This absolute zero-point corresponds to no occurrence and was used, as it creates an absolute zero-point in respondents, and simplifies scoring. The suitable Hindi anchor words : Seldom = Kabhi Nahin (to match absolute zero), sometimes = Kabhi-Kabhi (1), often = Aksar (2), very often= bahut aksar(3), always=hamesha(4).

CWB: Counterproductive behaviours are defined as behaviours that harm the organization (e.g., complaining excessively, magnifying problems, focusing on negative aspects). (0=never, 1=seldom, 2=sometimes, 3=regularly, 4=often) was used. Here again , the conceptually ideal state is zero behaviour in the recall period. The suitable Hindi anchor words : Never=Kabhi Nahin(0), Seldom=bahut kam(1), Sometimes=Kabhi Kabhi(2), regularly = aksar(3), often=bahut aksar(4) were used.

The use of different coding value for same anchor word across different subscales i.e. Task and contextual performance scales and counter-productive work behaviour scale may seem strange. But, both Krosnick and Presser (2010) and DeVellis (2017) emphasize that Likert-type response options are fundamentally ordinal verbal categories, such as “never,

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rarely, sometimes, often, always,” and that the specific numeric codes attached to them (for example 0–4 or 1–5) are analytic conveniences rather than direct representations of psychological quantities (Krosnick & Presser, 2010, pp. 263–270; DeVellis, 2017, pp. 92–99). They further note that these numeric codes can be flexibly assigned, recoded, or reverse-scored for analysis, provided the original ordering of the response options is preserved (Krosnick & Presser, 2010; DeVellis, 2017).

Pilot Study

A pilot study preceded the main field administration to assess translation quality, item clarity, response distributions, and administration procedures. 20–30 PSU employees completed the draft instrument and provided feedback, and items were revised where respondents indicated ambiguity.

Psychometric Analysis

The revised IWPQ was administered to a sample of Indian public-sector employees ($N = 219$). Data screening included checks for missingness, outliers (Mahalanobis distance), normality (skewness and kurtosis), and sampling adequacy (Kaiser–Meyer–Olkin measure and Bartlett's test of sphericity). An EFA (principal axis factoring with Promax rotation) was conducted to inspect the empirical factor structure. Factor retention used eigenvalues, the scree plot, and parallel analysis. CFA was then performed to test the hypothesised three-factor model; fit was evaluated using CFI, TLI, RMSEA, and SRMR. Internal consistency was assessed with Cronbach's α and composite reliability (CR); construct validity was evaluated using average variance extracted (AVE) and discriminant validity checks. SPSS v27 and AMOS v27 were used. A path diagram was also generated.

RESULTS

Descriptive Statistics

The sample comprised 219 Indian PSU employees ($N=219$). The sample characteristics were studied across rank group, gender, education, age group, length of service, and annual income.

Table 2: Sample Characteristics ($N = 219$)

Variable	Category	N	Percentage
Rank Group	Executive	175	79.9
	Workmen	44	20.1
Gender	Male	196	89.5
	Female	23	10.5

The sample constituted mainly of Executive rank participants ($n = 175$, 79.9%), with Workmen comprising 20.1% ($n = 44$). The sample was predominantly male (89.5% male, $n = 196$; 10.5% female, $n = 23$).

Missing data

Hair et al. (2019, p. 62) mentions that missing data tends to introduce bias in the data that could affect the results. As a thumb rule 10 percent missing data are acceptable. In this study the missing values were checked and all 219 values were found to be valid.

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Item-level Frequencies

Item-level response distributions for the adapted IWPQ were inspected for all items to detect floor/ceiling effects, restricted variance, and category misuse prior to factor and reliability analyses (DeVellis, 2017; Terwee et al., 2022). Frequency tables showed that task and contextual items used the full response scale with modal responses in the higher categories (e.g., PTK1: 31.1% = 3, 32.4% = 4; PTK3: 41.1% = 4), indicating adequate variability and no severe ceiling effects (Terwee et al., 2022). Several counterproductive-behaviour items were concentrated at the low end of the scale (PCW3–PCW5: majority responses in 0–1), which means most participants reported very low deviant behaviour. This is indicative of a floor effect for CPWB. This may lead to low variance among items, reduced factor loadings, and could affect AVE and require careful consideration during exploratory (EFA) and confirmatory factor analysis (CFA) (DeVellis, 2017). No item exceeded the common alert threshold of 80% endorsement in a single category, so no item was removed solely on distributional grounds; nonetheless, items with majority low endorsements were examined for low item–total correlations and weak factor loadings and considered for revision or removal if they undermined scale structure (DeVellis, 2017; Embretson & Reise, 2013).

Outlier detection

Outliers can substantially distort correlations and attenuate or inflate relationships among variables, which in turn can bias factor loadings and the pattern of factor structure. Consequently, outliers may mislead exploratory factor analysis results and should be detected and handled before conducting EFA (Hair et al., 2019, pp. 68–70). The outlier detection was carried out using Mahalanobis distance and Box-plot interpretation.

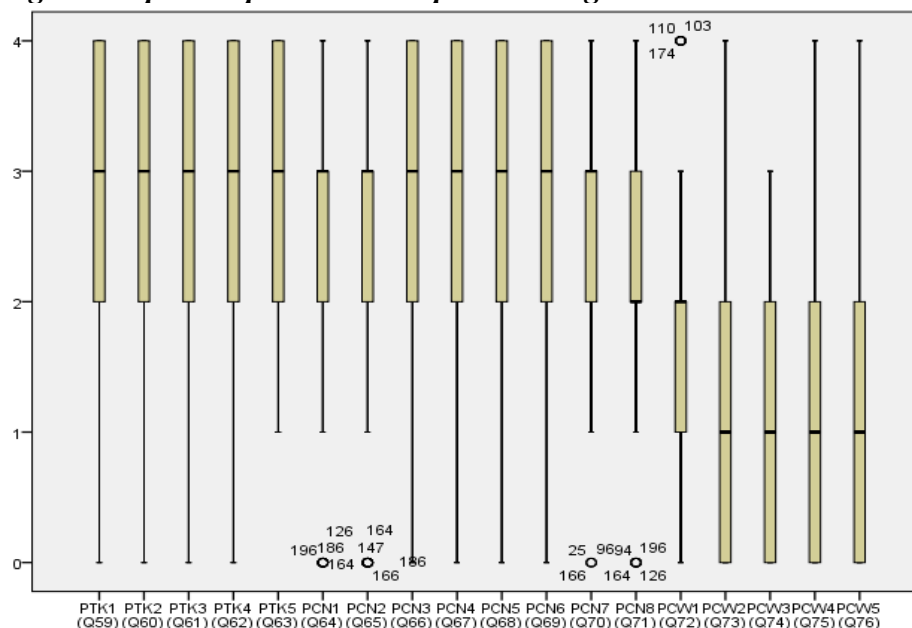
Univariate outliers were screened for all adapted IWPQ items. Only values at scale endpoints (0 or 4) were identified as extreme; these reflected legitimate responses within the predefined 0–4 range and occurred in multiple cases, indicating distributional skew rather than isolated aberrant observations. No cases were excluded based on univariate boxplot inspection alone.

Mahalanobis Distance

Mahalanobis distances for the 18 IWPQ items ranged from 3.13 to 48.41 ($M = 17.92$, $SD = 8.33$; $N = 219$). Using the $\chi^2(18)$ critical value at $p < .001$ (≈ 40.79), two cases (IDs 45 and 154) exceeded this cutoff and were flagged as potential multivariate outliers. Visual inspection indicated these represented extreme but plausible response patterns rather than data entry errors; they were retained in primary analyses.

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Fig. 1 Box plot output with all dependents together



Sampling Adequacy

To evaluate sampling adequacy for EFA, the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity were computed. KMO values $\geq .60$ are considered acceptable and values $\geq .80$ are regarded as very good (Kaiser & Rice, 1974; Kaiser, 1974). A significant Bartlett's test ($p < .05$) indicates sufficient intercorrelations to justify factor extraction (Bartlett, 1954).

Table 3: Sampling adequacy and test of sphericity

Measure	Value
Kaiserr-Meyer-Olkin (KMO)	0.84
Bartlett's $\chi^2(153)$	2995.49
p	< .001

The data were suitable for EFA: KMO = .84 and Bartlett's test of sphericity, $\chi^2(153) = 2995.49$, $p < .001$.

Factor Structure

Table 4: Total variance explained by extracted factors (principal axis factoring)

Factor	Eigenvalue	% of variance	Cumulative %
1	6.57	36.52	36.52
2	2.92	16.25	52.77
3	1.97	10.96	63.72

Exploratory factor analysis using principal axis factoring with Promax rotation was conducted on the 18 adapted IWPQ items. Three factors with eigenvalues greater than 1 were extracted, with initial eigenvalues of 6.57, 2.92, and 1.97, explaining 36.52%, 16.25%, and 10.96% of the total variance, respectively (cumulative = 63.72%).

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Table 5: Pattern matrix for three-factor solution (loadings $\geq .40$ shown)

Item	Factor 1 (TP)	Factor 2 (CP)	Factor 3 (CWB)
PTK1 (Q59)	0.82	—	—
PTK2 (Q60)	0.92	—	—
PTK3 (Q61)	0.98	—	—
PTK4 (Q62)	0.92	—	—
PTK5 (Q63)	0.92	—	—
PCN1 (Q64)	0.46	0.42	—
PCN2 (Q65)	—	0.5	—
PCN3 (Q66)	0.45	—	—
PCN4 (Q67)	—	0.5	—
PCN5 (Q68)	0.49	0.48	—
PCN6 (Q69)	—	0.97	—
PCN7 (Q70)	—	0.86	—
PCN8 (Q71)	—	0.66	—
PCW1 (Q72)	—	—	0.63
PCW2 (Q73)	—	—	0.86
PCW3 (Q74)	—	—	0.78
PCW4 (Q75)	—	—	0.75
PCW5 (Q76)	—	—	0.78

Note. PTK = task performance; PCN = contextual performance; PCW = counterproductive work behaviour. Loadings $< .40$ are suppressed and shown as '—'.

Two contextual performance items (PCN1 and PCN5) showed substantial loadings on both the task and contextual performance factors (pattern loadings $\approx .46$ – $.49$ on Factor 1 and $.42$ – $.48$ on Factor 2), indicating cross-loadings. PCN3 loaded primarily on the Task Performance factor rather than its intended Contextual Performance factor. Rather than removing these items, they were retained within the contextual performance subscale because they showed adequate communalities, aligned with the original IWPQ content, and reflected theoretically plausible overlap between task performance and contextual performance observed in previous research. In the subsequent CFA, these items were specified as indicators of the contextual performance factor only, and model fit was examined to confirm that this theoretically constrained structure remained acceptable.

Normality check

Normality was important to check, because standard ML estimation in AMOS assumes multivariate normality of the observed indicators.

Table 6: Descriptive statistics and normality indices for IWPQ subscale scores ($N = 219$)

Subscale	M	SD	Skewness (SE)	Kurtosis (SE)
PTK_Mean	2.94	0.94	−0.81 (0.16)	−0.34 (0.33)
PCN_Mean	2.67	0.81	−0.59 (0.16)	0.08 (0.33)
CPWB_Mean	1.29	0.83	0.66 (0.16)	0.81 (0.33)

Kolmogorov–Smirnov and Shapiro–Wilk tests were significant for all three subscales ($p < .001$), which is expected with $N = 219$. However, skewness and kurtosis values were within commonly accepted bounds ($|\text{skewness}| < 1$, $|\text{kurtosis}| < 2$), and visual inspection of

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histograms and Q–Q plots indicated no severe departures from normality. Subscale scores were therefore treated as approximately normally distributed for subsequent CFA.

Exploratory factor analysis supported the suitability and structure of the adapted IWPQ for Indian PSU employees. Sampling adequacy was meritorious ($KMO = .84$) (Kaiser, 1974), and Bartlett's test of sphericity was significant, $\chi^2(153) = 2995.49$, $p < .001$, indicating that the correlation matrix was appropriate for factor analysis. Principal axis factoring with Promax rotation yielded a clear three-factor solution aligned with the original IWPQ dimensions—task performance (PTK1–PTK5), contextual performance (PCN2–PCN8, with PCN1 and PCN5 retained as contextual items despite cross-loadings), and counterproductive work behaviour (PCW1–PCW5)—accounting for approximately 64% of the total variance. Subscale score distributions showed only moderate skewness and kurtosis ($|skewness| < 1$, $|kurtosis| < 1$), and although formal normality tests were significant at $N = 219$, histograms and Q–Q plots indicated no severe departures from normality, so the scores were treated as approximately normal. Taken together, the EFA and normality results justify proceeding to confirmatory factor analysis to test the hypothesised three-factor measurement model of the adapted IWPQ in AMOS.

Confirmatory Factor Analysis Results

A confirmatory factor analysis (CFA) was conducted to test the three-factor structure of the adapted IWPQ comprising of task performance (5 items), contextual performance (7 items), and counterproductive work behaviour (5 items), using data from Indian PSU employees ($N = 219$). The final 17-item model, after removing one weak contextual item (PCN8) and allowing a small number of theoretically justifiable within-factor error covariances, showed acceptable incremental fit: $\chi^2(112) = 383.77$, $p < .001$, $\chi^2/df = 3.43$, CFI = .90, TLI = .88, GFI = .85, RMSEA = .11, 90% CI [.09, .12]. Fig.2 shows the AMOS path diagram.

All standardised factor loadings were positive and significant ($\lambda = .62-.93$). Convergent validity was supported: AVE exceeded .50 for all three factors (AVE = .75, .52, and .59 for task performance, contextual performance, and counterproductive work behaviour, respectively) and CR exceeded .87 (CR = .94, .88, and .88, respectively). Discriminant validity was supported: the square roots of AVE (.87, .72, and .77) exceeded the corresponding inter-factor correlations $r = .66$ for task–contextual; $r = -.16$ for task–CPWB; $r = -.07$ for contextual–CPWB).

Table 7. Convergent and Discriminant Validity of the Adapted IWPQ Factors (N = 219)

Construct	AVE	CR	Task	Contextual	Counter-productive work behaviour
TASK	.75	.94	.87		
PCN	.52	.88	.66	.72	
CPWB	.59	.88	-.16	-.07	.77

Note. AVE = average variance extracted; CR = composite reliability; TASK = Task Performance; PCN = Contextual Performance; CPWB = Counterproductive Work Behaviour. Values on the diagonal (in bold) are the square roots of AVE. Off-diagonal elements are latent factor correlations. All CR values exceed .70 and all AVE values exceed .50, indicating adequate convergent validity. In all cases, the square root of AVE is greater than the corresponding inter-construct correlations, supporting discriminant validity.

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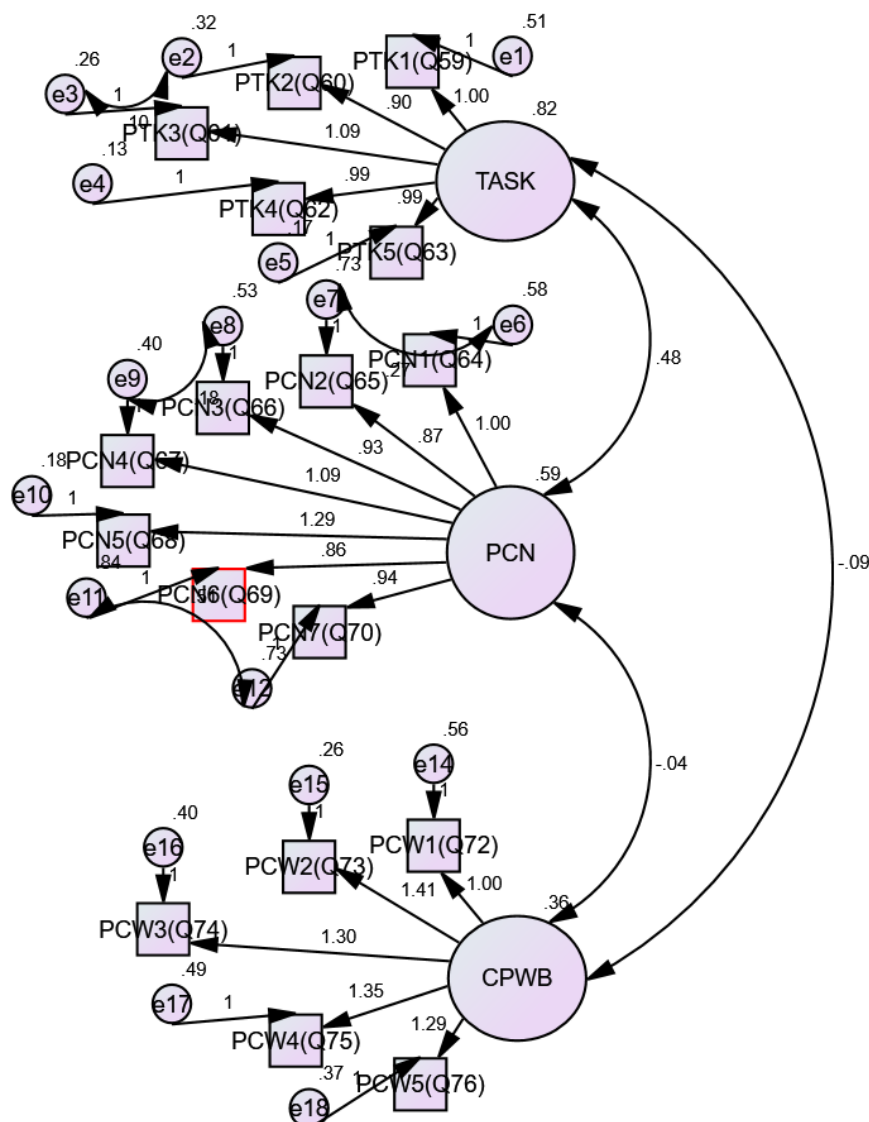


Fig 2. CFA path diagram showing standardised factor loadings for the three-factor IWPQ model (N = 219).

DISCUSSION

Interpretation of the three-factor structure

The present study provides empirical support for a three-factor conceptualisation of individual work performance—task performance, contextual performance, and counterproductive work behaviour—in the Indian public sector context. The final 17-item model retained five task performance items, seven contextual performance items, and five counterproductive work behaviour items, with all standardised loadings substantial and statistically significant ($\lambda \approx .62-.93$). This pattern indicates that PSU employees were able to meaningfully differentiate between core task duties, extra-role behaviours that support the organisational environment, and behaviours that harm the organisation or its members, even when responding to a self-report measure administered in Hindi.

The relatively high convergent validity estimates ($AVE \geq .52$; $CR \geq .88$) suggest that each latent factor captures a coherent and internally consistent domain of work performance among Indian PSU employees. At the same time, the modest correlations between the three factors

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(e.g., $r_{\text{TASK-CPWB}} \approx -.16$, $r_{\text{PCN-CPWB}} \approx -.07$) indicate that they are empirically distinguishable, with counterproductive work behaviour operating largely independently of positive performance facets. These findings reinforce the usefulness of the IWPQ framework for capturing both desirable and undesirable aspects of individual performance in bureaucratic, rule-driven government organisations, where contextual citizenship-like behaviours and subtle counterproductive acts may have particularly strong implications for service delivery and organisational image.

Comparison with original Koopmans et al. and other adaptations

Consistent with Koopmans et al.'s original conceptualisation, the current study supports a three-dimensional structure comprising task, contextual, and counterproductive performance. Earlier validation work in Dutch and English samples similarly found that an 18-item IWPQ with three scales provided a reliable and valid representation of individual work performance across occupational sectors. The factor composition in the present PSU sample largely mirrors the original instrument, with only one contextual performance item (PCN8) removed due to weak loading, echoing evidence from other cultural contexts that certain contextual items can function less well and may require refinement.

Recent adaptations, such as the Portuguese IWPQ and Greek IWPQ versions, also replicated the three-factor solution and reported good psychometric properties, with CFIs around .95 and RMSEAs around .06 in some samples. In contrast, a South African study using CFA and ESEM found that although the three-dimensional structure was supported, RMSEA values exceeded the conventional .08 cut-off, and model improvement required adding correlated residuals between closely related contextual and counterproductive items. The current Indian PSU findings are therefore aligned with the broader international literature: the three-factor structure is robust, but the degree of global model fit can vary across countries and sectors, and minor scale modifications (e.g., dropping or correlating specific items) are often necessary during cultural adaptation.

Explanation for less-than-ideal global fit

Although the final CFA model achieved acceptable incremental fit ($\text{CFI} \approx .90$, $\text{TLI} \approx .88$), absolute fit indices such as RMSEA ($\approx .11$) and χ^2/df (≈ 3.4) did not reach more stringent criteria, indicating residual misfit. There are several substantive and methodological reasons why very high levels of fit may be difficult to achieve in this context. First, behavioural performance data collected in real organisational settings often deviate from strict multivariate normality and may contain unmodelled situational influences (e.g., organisational politics, job security concerns in PSUs), which can inflate misfit even when the underlying factor structure is sound. Second, cross-cultural adaptation from the original Dutch/English IWPQ to Hindi required linguistic adjustments while retaining the original performance domains, and minor translation nuances or culturally specific interpretations of contextual behaviours may introduce additional measurement error.

Third, the PSU environment in India is characterised by hierarchical structures, strong formal rules, and relatively stable employment, which may compress variability in some performance behaviours and lead to correlated residuals between conceptually similar items (e.g., pairs of contextual items referring to helping colleagues or complying with procedures). In line with recommendations in the CFA literature, only a small number of theoretically defensible within-factor error covariances were freed (between closely related items within the same factor) Hair et al. (2022), and cross-factor residual correlations suggested by modification

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indices were deliberately not implemented to avoid overfitting and compromising construct interpretability. Thus, the decision was taken to accept a model with adequate but not perfect fit, prioritising theoretical coherence and cross-cultural comparability over incremental gains in fit indices.

Practical implications

Despite less-than-ideal global fit, the adapted IWPQ demonstrates adequate reliability and validity for assessing individual work performance among Indian PSU employees and can be used as a practical tool in HR and research applications. Practitioners can employ the three subscales to obtain a nuanced picture of performance: task performance scores can inform performance appraisal and training needs; contextual performance scores can signal strengths and weaknesses in organisational citizenship and teamwork; and counterproductive work behaviour scores can highlight areas of concern related to deviance, rule-breaking, or withdrawal that may undermine service quality. Because the instrument is brief and generic, it is suitable for large-scale surveys and can be integrated into employee engagement or organisational climate diagnostics in PSUs.

For researchers, the validated Hindi/Indian PSU version of the IWPQ facilitates future studies on the antecedents and consequences of individual work performance, including the roles of organisational justice, commitment, job satisfaction, and leadership in the public sector. The availability of a culturally adapted measure also enables cross-national comparisons with other IWPQ adaptations (e.g., Portuguese, Greek, Indonesian), thereby contributing to a more global evidence base on performance at work.

Limitations and directions for future research

Several limitations should be acknowledged. First, the sample was drawn from employees of Indian public sector undertakings, which may limit generalisability to private-sector or non-Indian settings; performance norms and the meaning of contextual and counterproductive behaviours may differ in more market-driven or less bureaucratic environments. Second, self-report measurement raises the possibility of common method bias and social desirability, particularly for counterproductive behaviours, which are likely to be underreported in organisational surveys; incorporating supervisor ratings or objective performance indicators in future work would strengthen construct validation. Third, although the final model showed acceptable reliability and factorial validity, global fit indices did not reach excellent levels, suggesting that further refinement of specific items—especially within the contextual performance domain—may improve measurement precision.

Future research could explore alternative modelling approaches, such as bifactor or higher-order models of individual work performance, to examine whether a general performance factor underlies the three dimensions in Indian PSUs. Longitudinal designs would also allow testing the responsiveness and predictive validity of the adapted IWPQ, for example by linking changes in task or contextual performance scores to subsequent outcomes such as promotion, performance ratings, or turnover. Finally, qualitative studies could investigate how PSU employees and managers interpret specific contextual and counterproductive behaviours, providing richer cultural insight to guide item refinement and ensure that the scale fully captures performance nuances in the Indian public sector environment.

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Conflict of Interest

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APPENDIX

Note. The appendix presents the adapted 18-item IWPQ administered during data collection. Based on the confirmatory factor analysis, one contextual performance item (PCN8) was removed from the final validated measurement model because of its comparatively weak psychometric performance.

Behaviours at Work/ काम पर व्यवहार - Koopmans(2015) Bilingual – English/Hindi

Instructions/ निर्देश:

The following questions relate to how you carried out your work during the past 3 months. In order to get an accurate picture of your conduct at work, it is important that you complete the questionnaire as carefully and honestly as possible. If you are uncertain about how to answer a particular question, please give the best possible answer. The questionnaire is completely anonymous: your answers will not be seen by your supervisor(s) or colleagues.

निर्देश:

निम्नलिखित प्रश्न पिछले 3 महीनों के दौरान आपके कार्य करने के तरीके से संबंधित हैं। आपके कार्य आचरण की सटीक जानकारी प्राप्त करने के लिए, यह महत्वपूर्ण है कि आप प्रश्नावली को सावधानी और ईमानदारी से भरें। यदि आपको किसी प्रश्न का उत्तर देने में संदेह है, तो कृपया यथासंभव सर्वोत्तम उत्तर दें। यह प्रश्नावली पूरी तरह से गुप्त रखि जायेगी : आपके उत्तर आपके सुपरवाइजर या सहकर्मियों द्वारा नहीं देखे जाएँगे।

Scale A/ स्केल अ

In the past 3 months/पिछले तीन महीनों में -

	Seldom कभी नहीं	Sometimes कभी कभी	Regularly अकसर	Often बहुत अकसर	Always हमेशा
	0	1	2	3	4
1. I was able to plan my work, so I finished it on time. 1. मैं अपने कार्य की योजना बना पाया, इसलिए मैंने समय पर इसे समाप्त किया।	☐	☐	☐	☐	☐
2. I kept in mind the work result I needed to achieve. 2. मैंने उस काम के नतीजे को ध्यान में रखा जिसे मुझे हासिल करना था।	☐	☐	☐	☐	☐
3. I was able to set priorities. 3. मैं प्राथमिकताओं को निर्धारित कर पाया।	☐	☐	☐	☐	☐
4. I was able to perform my work efficiently. 4. मैं अपने कार्य को कुशलता से कर पाया।	☐	☐	☐	☐	☐
5. I managed my time well. 5. मैंने अच्छी तरह अपने समय को मैनेज किया।	☐	☐	☐	☐	☐

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Scale B/ स्केल बी

In the past 3 months/पिछले तीन महीनों में -

	Seldom कभी नहीं	Sometimes कभी कभी	Regularly अकसर	Often बहुत अकसर	Always हमेशा
	0	1	2	3	4
6. On my own initiative, I started new task when my old tasks were completed. 6. जब मेरे पुराने कार्य खत्म हो गए , मैंने स्वयं पहल करके नए कार्य शुरू किये।	☐	☐	☐	☐	☐
7. I took on challenging tasks when they were available. 7. जब चुनौतीपूर्ण कार्य उपलब्ध थे तब मैंने उन्हें करने का निश्चय किया।	☐	☐	☐	☐	☐
8. I worked on keeping my job-related knowledge up-to-date. 8. अपनी नौकरी से सम्बंधित अप - टू - डेट जानकारीयों को मैं प्राप्त करता रहा।	☐	☐	☐	☐	☐
9. I worked on keeping my work skills up-to-date. 9. अपने कार्य कौशल को अप-टू-डेट बनाये रखने के लिए मैंने काम किया।	☐	☐	☐	☐	☐
10. I came up with creative solutions for new problems. 10. नई समस्याओं के लिए मैंने क्रिएटिव समाधान सुझाये।	☐	☐	☐	☐	☐
11. I took on extra responsibilities. 11. मैंने अतिरिक्त जिम्मेदारियाँ लीं।	☐	☐	☐	☐	☐
12. I continually sought new challenges in my work. 12. मैं अपने कार्य में लगातार नयी चुनौतियों की खोज करता रहा।	☐	☐	☐	☐	☐
13. I actively participated in meetings and/or consultations. 13. मैंने बैठकों तथा / अथवा विचार-विमर्शों में सक्रियता से भाग लिया।	☐	☐	☐	☐	☐

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Scale C/ स्केल सी.

In the past 3 months/पिछले तीन महीनों में -

	Never	Seldom	Sometimes	Regularly	Often
	कभी नहीं	बहुत कम	कभी कभी	अकसर	बहुत अकसर
	0	1	2	3	4
14. I complained about minor work-related issues at work. 14.मैंने कार्यस्थल पर मामूली मुद्दों पर शिकायत की।	☐	☐	☐	☐	☐
15. I made problems at work bigger than they were. 15.काम पर समस्याएँ जितनी बड़ी थी मैंने उन्हें और बड़ा बना दिया।	☐	☐	☐	☐	☐
16. I focused on the negative aspects of situation at work instead of the positive aspects. 16.काम पर मैंने पॉजिटिव पहलुओं के बजाय नेगेटिव पहलुओं पर ध्यान दिया।	☐	☐	☐	☐	☐
17. I talked to colleagues about the negative aspects of my work. 17.मैंने अपने सहकर्मीओं से अपने काम के नेगेटिव पहलुओं के बारे में बात की।	☐	☐	☐	☐	☐
18. I talked to people outside the organisation about the negative aspects of my work. 18.मैंने संस्था के बाहर के लोगों से अपने काम के नेगेटिव पहलुओं के बारे में बात की।	☐	☐	☐	☐	☐