



Determinants of Effective Industrial Relations in the Indian Alcoholic Beverage Industry: Survey Evidence from Liquor Manufacturing Units in Western Uttar Pradesh

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Abstract

Problematic: Despite the economic significance, labour-intensive and unique regulatory framework of India's alcoholic beverage sector, there is an empirical gap regarding IR in this sector. The purpose of this study is to find the determinants of effective industrial relations in liquor manufacturing units of western Uttar Pradesh based on employee–management relations, collective bargaining, trade unions, participative management and health, safety and welfare provision and to test whether there is difference of opinion between workers and officers regarding IR climate.

Design/methodology/approach: Structured questionnaire with seven IR constructs based on five-point Likert scale was administered to 356 respondents (259 workers and 97 officers/executives) both in five liquor manufacturing units of western Uttar Pradesh in January to June 2026. Construct validity was determined by exploratory factor analysis (KMO =.964; a clean seven-factor structure was achieved, accounting for 55.3% of variance), composite reliability (.86–.88), average variance extracted ($\geq .50$) and discriminant validity (Fornell–Larcker criterion was satisfied; HTMT $\leq .83$). Cronbach's alpha for all scales ranged from .798 to .837, and Harman's single-factor test resulted in no significant common method bias. Pearson correlation, simple and multiple linear regression, independent samples t-test, chi square analysis and one way analysis of variance were used to test hypotheses.

Results: Effective industrial relations was significantly predicted by employee–management relations ($\beta = .662$), collective bargaining ($\beta = .659$), trade union functioning ($\beta = .631$) and health, safety and welfare measures ($\beta = .665$), and job satisfaction was significantly predicted by participative management ($\beta = .593$), while perceived industrial harmony was significantly predicted by participative management ($\beta = .547$). Together, the five antecedents accounted for 62.5% of the variance in IR effectiveness; participative management was the best single predictor ($\beta = .224$). In addition, workers reported significantly lower perceptions than officers on participative management, grievance handling, welfare provision and overall IR climate (Cohen's $d = 0.33$ – 0.82), but no differences were found between worker and officer perceptions on collective bargaining and perceptions of trade unions.

Practical implications: In order to consolidate the industrial peace in the sector, Managements should focus on the need to encourage worker participation, grievance machinery and their transparency etc.

Originality/value: One of the first multi-firm quantitative studies of industrial relations in the Indian liquor industry, and quantification of a perception gap hierarchy, which the pluralist IR theory suggests but has not been measured in Indian manufacturing.

Keywords: Industrial relations, Collective bargaining, Trade unions, Participative management, Employee welfare, Liquor industry, India

1. Introduction

In manufacturing economies, the system of industrial relations – i.e. the system of relationships between employers, employees, their representative institutions and the state - remains a critical factor in the productivity, industrial peace, and the quality of working life in manufacturing industries (Dunlop, 1958; Kaufman, 2004) ^[9, 20]. In India, three decades of liberalisation, privatisation and globalisation have altered the IR landscape, as bargaining power has shifted in favour of the employers,

significant portions of industrial workforce have become informal and the role of the trade unions and the state have changed (Bhattacharjee, 2001; Sengupta & Sett, 2000; Shyam Sundar, 2019) ^[3, 26, 27]. This debate has been exacerbated by the amalgamation of 29 central labour laws into four Labour Codes, one of which is the Industrial Relations Code, 2020. The Code has been assessed to be more flexible and encouraging for the ease of doing business, and having unclear implications for trade unionism, the right to strike and workplace cooperation (Bhuta, 2022; Roy & Dubey, 2022) ^[4]. It is, therefore, an empirical question whether Indian workplaces will be able to maintain cooperative employment relations under the new regime.

In this changing landscape, the alcoholic beverage sector is in a unique and analytically interesting place. It is an important contributor to state exchequer, and excise revenue from liquor is one of the biggest sources of own tax revenue to Indian states such as Uttar Pradesh but is highly regulated and under extreme social condemnation. Its factories have a combination of continuous process and labour-intensive bottling and packing, a combination of permanent, contract and seasonal labour and are often situated in semi-urban industrial belts where there are few alternative jobs. The above characteristics render the sector a challenging test-bed for IR, as production downtimes are expensive, statutory compliance (excise, factories, safety) is strictly monitored, and the workforce is diverse with regard to skills, job tenure and employment status. The region of Western Uttar Pradesh has one of the highest concentrations of alcohol making units in Northern India with distilleries and breweries at Rampur, Ghaziabad, Muzaffarnagar, Aligarh–Amroha and Meerut and the employment relations context of these units has received very little systematic research.

In Indian context, the existing literature on IR is dominated by studies on public sector enterprises, textiles, engineering, banking and late information technology (Ramaswamy, 1977; Venkata Ratnam, 2006; Papola, 1994) ^[24, 28, 22]. There are virtually no quantitative data available about the liquor industry, and what is available is descriptive or limited to an individual unit. Thus, there are three questions that have not yet been answered. First, what institutional arrangements – day to day employee-managers relations, collective bargaining, trade unions, participative management, health, safety and welfare provision – have the greatest impact on the effectiveness of industrial relations in this industry? Second, what share of the variation in the effectiveness of IR is accountable to these mechanisms? Third, do the IR climates experienced by the shop floor and officers differ or are they the same, and is there a systematic effect of hierarchical position on perception, as pluralist theory might predict (Fox, 1966; Budd, 2004) ^[5]?

This study attempts to answer these questions by collecting primary survey data from 356 workers and officers of five liquor manufacturing units of Western Uttar Pradesh. It makes three contributions. Firstly, it gives one of the first multi-firm psychometrically valid assessments of the IR climate in the Indian liquor sector, which is an economically important yet empirically neglected sector. Second, it estimates both bivariate and combined regression models to decompose the gross and unique impact of five theoretically underpinned antecedents of IR effectiveness, revealing that participative management has the highest unique weight, rather than collective bargaining or union activity. Third, it measures the perception gap between union and management

across seven IR dimensions and finds that the perception gap is focused on the managerially-controlled domains (participation, grievance handling and welfare) and the perception gap is non-existent in the jointly-governed domains (bargaining and unionism) with direct implications for pluralist IR theory and managerial practice.

The remainder of the paper is organised as follows. The literature is discussed in Section 2 and the hypotheses are developed. The data and methods are presented in Section 3. The results are presented in section 4. The findings are presented in Section 5 and implications, limitations and directions for future research are outlined in Section 6.

2. The Theoretical Background and Hypotheses Development

2.1. Industrial Relations as A System

The systems approach views industrial relations as a relationship between various actors (managers, employees and employee organizations, and government) in a technological, market and power environment, which are held together by a common philosophy or ideology, and which generate a 'web of rules' in the workplace (Dunlop, 1958) ^[9]. Flanders (1965) ^[10] focused this down to the institutions of job regulation, whilst the pluralist tradition argues that there are common and conflicting interests in the employment relationship and that stable industrial relations depend on institutions that provide a way of articulating and resolving conflict, such as bargaining, representation, voice and due process (Fox, 1966; Clegg, 1976) ^[7]. Budd (2004) ^[5] restates the goals of the employment relationship as being the balancing of efficiency, equity and voice. From these points of view, the effectiveness of industrial relations in enterprise is an emergent outcome, peace, cooperation, low incidence of disputes and mutual legitimacy, which are created by the quality of a number of underlying mechanisms: the day-to-day relations of employees and management; the collective bargaining process; the functioning of the trade union; participative structures; and provision of health, safety and welfare. In the present study, IR effectiveness is operationalised exactly as such and each mechanism is tested as an antecedent.

2.2. Employee–Management Relations

The quality of the informal relationship between management and staff – that is, the level of openness, two-way communication, trust and respect for each others' views and responsiveness to concerns – forms the foundation of formal IR. High-trust relationships lower the transaction costs of rule-making, and decrease the likelihood that grievances will escalate into disputes (Fox, 1974; Guest, 1987) ^[15]. Indian studies have also observed that communication climate, managerial responsiveness/welfare orientation is related to industrial harmony in the manufacturing unit (Venkata Ratnam, 2006; Chatterjee & Majumder, 2024) ^[28, 6]. Accordingly:

H1. *There is positive and significant relationship between employee–management relations and effective industrial relations in the selected liquor companies.*

2.3. Collective Bargaining

Collective bargaining is the most important pluralist institution of joint regulation: it turns distributive conflict into an agreement negotiated in a rule-bound setting and legitimises the results (Flanders, 1965; Clegg, 1976) ^[10, 7].

Comparative statistics point to a negative relationship between the levels of institutionalization of bargaining and the rates of labour conflict and employment stability (Aidt & Tzannatos, 2002) ^[1]. As the rate of unionisation has shown a downward trend, enterprise-level bargaining in organised manufacturing continues to be the prevailing system in India (Bhattacharjee, 2001, Sengupta and Sett, 2000) ^[3, 26]. If agreements are frequently made and respected, the employees will feel the IR climate more effective. Hence:

H2. *Collective bargaining has a positive and significant relationship with effective industrial relations in the selected liquor companies.*

2.4. Trade Unions

Effective voice is the collective voice of workers, it is through this that workers articulate grievances and interests (the exit-voice framework predicts that effective voice will reduce quitting, channel discontent constructively and can raise productivity). The Indian literature, however, reports a considerable diversity in the effectiveness of unions, ranging from those which are politically disorganized and leader dominated, to enterprise oriented and constructive unions which engage in co-production of industrial peace (Ramaswamy, 1977; Karnik, 1978) ^[24, 19]. Wherever a union is available, it should play a positive role in the IR climate and resolve grievances and be recognised by management as a legitimate union. Thus:

H3. *There are positive and significant relationships between trade union functioning and effective industrial relations in the selected liquor companies.*

2.5. Participative Management

Consultation, works committees, joint councils and involvement in target-setting gives workers a voice in management beyond distributive bargaining to the organisation of work. This is because participation is theorised to improve perceived procedural justice, job satisfaction and cooperation (Budd, 2004; Guest, 1987) ^[5, 15], and also because India has had a statutory tradition of works-committees, which has been formalistic in many cases (Venkata Ratnam, 2006) ^[28]. As the contemporary literature on employee voice attests, both direct and representative channels are always linked to satisfaction, wellbeing and improved employment relationships and increasingly, the phenomenon of employee voice is viewed as a fundamental aspect of employment relations, rather than a discretionary add-on (Wilkinson *et al.*, 2020; Barry & Wilkinson, 2022) ^[29, 21]. Accordingly:

H4. *There is a positive and significant relationship between participative management and (a) employee job satisfaction, and (b) perceived industrial harmony.*

2.6. Health, Safety and Welfare

Statutory and voluntary welfare—protective equipment, health check-ups, canteen and transport facilities, social-security benefits and safety systems—shows the employer's interest in the welfare of his employees and meets the hygiene needs without which cooperative relations could not be established. Safety is also a direct focus of the unions and regulations, now combined in the union-specific Occupational Safety, Health and Working Conditions Code, 2020, in hazardous continuous-process industries like distillation, and the perception of safety plausibly contributes to the general IR climate perception. Chatterjee & Majumder

(2024) ^[6] show that there is recent evidence in India linking welfare provision and a favourable IR climate in manufacturing. Hence:

H5. *Health, safety and welfare measures are favourably related and it is significant to the effective industrial relations in the selected liquor companies.*

2.7. Hierarchical Position and Perception of IR Climate

Pluralist theory states that the employment relationship is different in each of the structural positions and managers and workers have different 'frames of reference' for the same institutions and they are interested in them for different reasons (Fox, 1966). Officers may have more favourable views on participation, grievance handling and welfare when designing and administering IR policies than do those who are subject to the policies. The voice literature also warns that there is often a disconnect between managerially reported voice and participation and employee practices (Barry & Wilkinson, 2022) ^[21]. Therefore:

H6. *There is a large difference between workers' and officers' perceptions of industrial relations practices.*

H1-H5 form a model to test the effectiveness of IR (and for participation, satisfaction and harmony) as predicted by five institutional mechanisms, and H6 tests the structural contingency of those perceptions.

3. Method

3.1. Setting and Research Design

The study design was descriptive, cross sectional survey. Employees and officers of liquor manufacturing units in Western Uttar Pradesh (India) were included in the population. A sample of five units was purposively chosen, covering the production centres and ownership types of the region: Radico Khaitan Ltd (Rampur), Mohan Meakin Ltd (Ghaziabad), the distillery unit of Triveni Engineering & Industries (Muzaffarnagar), Wave Distilleries & Breweries (Aligarh – Amroha), and the brewery of AB InBev (Meerut). These include Indian family owned, professionally managed and multinational operations and include both distillation and brewing technologies.

3.2. Sample and Procedure

There is no unit-level employee sampling frame for the sector; workforce rosters are kept confidential, there is some contract and seasonal employment and access to shop floors is limited through excise regulation. Given this level of access, however, a convenience sample was the natural choice for respondents, and one that was structured to approximate representativeness on three dimensions: departments (production/distillation, bottling and packaging, quality control, maintenance, administration/HR, and sales); cadre (workers and officers); and employment type (permanent, contract, seasonal). The realised distributions of companies (19.1%-21.9% each) and cadres closely resemble typical distributions in staffing the units of a sample, and the implications of non-probability sampling for generalisation are discussed in Section 6.3. Self-administered paper questionnaires were used to gather information from January to June 2026, with support from the researcher for illiterate respondents. Participation was voluntary, anonymous with a covering note that explained its academic purpose, informed consent, and assured confidentiality and aggregate-only reporting. A total of 356 questionnaires were returned and used for analysis, which comfortably meets the rules of

thumb of the number of cases that is necessary for multivariate analysis (at least 10–15 cases per predictor; Hair *et al.*, 2019) ^[16]. The realised sample consisted of 259 workers (72.8%) and 97 officers/executives (27.2%) spread over the five units in approximately similar ratios (19.1%–21.9%).

3.3. Measures

The questionnaire was designed based on the constructs found in the literature and improved by asking supervisors for their feedback and by conducting pilot tests. Seven multi-item constructs were measured by using five-point Likert scales (1 = strongly disagree, 5 = strongly agree) as follows: *employee–management relations* (EMR; six items, e.g., 'Communication between management and employees is open and two-way'), *collective bargaining* (CB; six items, e.g., 'Wage revisions in my company are settled through collective bargaining'), *trade unions* (TU; six items, e.g., 'The trade union in my company effectively represents workers' interests'), *participative management* (PM; six items, e.g., 'Employees are consulted before decisions affecting them are taken'), *health, safety and welfare* (HSW; six items, e.g., 'Statutory social-security benefits (PF, ESI, gratuity) are properly provided'), *grievance handling* (GH; five items, e.g., 'Grievances are addressed within a reasonable time'), and *effective industrial relations* (EIR; five items, e.g., 'Industrial relations in my company are peaceful and cordial'). Overall job satisfaction (1 = very dissatisfied to 5 = very satisfied) and perceived overall industrial harmony (five-point agreement) were measured by two single item criterion measures. The construct scores were calculated as the average of the items on the construct. In Section A, demographic and classification data were collected.

3.4. Reliability

Cronbach's alpha values ranged from .798 for the EIR to .837 for the HSW and corrected item–total correlation values were all above .30, the threshold for internal consistency (Nunnally & Bernstein, 1994) ^[21]; the 40 item instrument as a whole had an alpha of .955. For each scale, no item deletion resulted in a meaningful increase in alpha, thus no items were removed.

3.5. Construct Validity and Common Method Bias

Prior to hypothesis testing, construct validity was checked. Sampling adequacy was good (KMO = .964) and the MSAs estimated for the 40 items ranged from .946 to .978; Bartlett's test of sphericity was significant, $\chi^2(780) = 6052.76$, $p < .001$, indicating the factorability of the 40-item correlation matrix (Kaiser, 1974) ^[18]. Varimax rotated principal component analysis revealed exactly 7 factors with eigenvalues greater than 1 that accounted for 55.3% of overall variance. The rotated solution replicated the intended measurement design very well: No cross-loading was greater than .36, and each item loaded highest on its own construct. All values of composite reliability (CR) ranged from .859 to .880, which is above the .70 benchmark, and average variance extracted (AVE) ranged from .504 to .577, meeting the .50 threshold for convergent validity (Fornell & Larcker, 1981; Hair *et al.*, 2019) ^[11, 16]. There were two criteria used to support discriminant validity. As per Fornell–Larcker criterion, the square root of the AVE of each construct was greater than the highest correlation between any two constructs as shown in

Table 3. All the heterotrait–monotrait (HTMT) ratios were also below the conservative .85 threshold (maximum = .829, for PM–EIR; Henseler *et al.*, 2015) ^[17]. Thus, the seven constructs are empirically distinct, and internally coherent. Common method variance (Podsakoff *et al.*, 2003) ^[23] was examined diagnostically as all variables were obtained from the identical respondents using the identical instrument. The single-factor test by Harman indicated that the proportion of variance explained by the first unrotated factor (36.4%) was not close to 50% and the unrotated solution suggested seven factors with eigenvalues greater than one instead of one general factor. Two aspects of the design further limit the extent of method bias: the fact that respondents were anonymous reduced evaluation apprehension, and the differentiated results (significant worker–officer differences on some constructs, not on others; unique regression weights) are hard to explain by the presence of a single pervasive method factor. Common method bias is therefore unlikely to be an alternative explanation for the results, but cannot be excluded completely (see Section 6.3).

3.6. Analytical Strategy

Data were analyzed in IBM SPSS. Pearson correlations were used to determine bivariate relationships between constructs following descriptive profiling. Simple linear regressions were tested for each hypothesis (H1–H5), and a combined multiple regression was performed to isolate the unique contributions of each of the five antecedents to EIR, as well as the collinearity diagnostics (tolerance, VIF) and the Durbin–Watson statistic. Independent-samples t-tests (workers vs officers) were calculated for each score in each construct and criterion variables, with Levene's test for equality of variances and Cohen's d for effect size; in addition a chi-square test of independence between cadre and categorised job satisfaction was conducted. One-way ANOVAs with Tukey HSD post-hoc comparisons explored inter-company differences. Skewness (sk) and kurtosis (ku) of all the constructs scores were within the acceptable range of $|sk| \leq .20$ and $|ku| \leq .33$ respectively. For each model, regression assumptions were satisfied: Breusch–Pagan tests confirmed homoscedastic residuals (all $p \geq .059$); standardised residuals were approximately normal with negligible skew; plot of standardised residuals against the predicted values showed no obvious deviations from normality; and 95% confidence intervals are provided for all coefficients.

4. Results

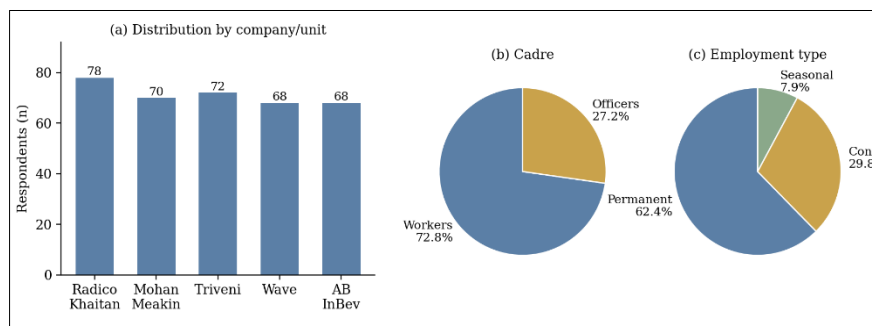
4.1. Sample Profile

The profile of the sample is given in Table 1. Respondents were predominantly male (75.3%) and married (68.0%), with a mean age of 38.4 years (SD = 10.9) and mean work experience of 12.5 years (SD = 9.6). The education levels were concentrated at senior secondary (24.2%) and graduate (28.4%). Production/distillation (26.7%) and bottling/packaging (24.7%) were the largest functions. Of the respondents, 62.4% were permanent employees, 29.8% contract workers and 7.9% seasonal/casual employees with 42.4% having a monthly income of ₹15,000–25,000. Figure 1 illustrates the composition of the sample.

Table 1: Demographic and classification profile of respondents (N = 356)

Variable	Category	n	%
Company/unit	Radico Khaitan Ltd, Rampur	78	21.9
	Mohan Meakin Ltd, Ghaziabad	70	19.7
	Triveni Engineering (Distillery)	72	20.2
	Wave Distilleries & Breweries, Aligarh–Amroha	68	19.1
	Brewery, Meerut (AB InBev)	68	19.1
Age group	Below 25	36	10.1
	25–35	129	36.2
	36–45	96	27.0
	46–55	71	19.9
	Above 55	24	6.7
Gender	Male	268	75.3
	Female	85	23.9
	Other / prefer not to say	3	0.8
Marital status	Single	93	26.1
	Married	242	68.0
	Divorced/widowed/separated	21	5.9
Education	Below secondary	14	3.9
	Secondary (10th)	64	18.0
	Senior secondary (12th)	86	24.2
	Graduate	101	28.4
	Post-graduate	58	16.3
Cadre	Professional/technical	33	9.3
	Employee/worker	259	72.8
	Officer/executive	97	27.2
Department	Production/distillation	95	26.7
	Bottling & packaging	88	24.7
	Quality control/laboratory	41	11.5
	Maintenance/engineering	70	19.7
	Administration/HR	35	9.8
	Sales & marketing	16	4.5
Experience	Other	11	3.1
	Below 5 years	96	27.0
	5–10 years	92	25.8
	11–20 years	93	26.1
	21–30 years	63	17.7
	Above 30 years	12	3.4
Employment type	Permanent	222	62.4
	Contract	106	29.8
	Seasonal/casual	28	7.9
Monthly income (₹)	Below 15,000	37	10.4
	15,000–25,000	151	42.4
	25,001–40,000	117	32.9
	40,001–60,000	40	11.2
	Above 60,000	11	3.1

Note: Mean age = 38.42 years (SD = 10.94); mean experience = 12.48 years (SD = 9.61).

**Fig 1:** Sample composition: (a) respondents by company/unit, (b) cadre, (c) employment type (N = 356).

4.2. Descriptive Statistics and Reliability

Table 2 reports construct-level descriptive statistics, reliability and convergent-validity indices. All construct scores between 3.33 (grievance handling) and 3.52 (health, safety and welfare) are in the moderate to favourable band of the five-point scale (with 1 being the lowest and 5 the highest), representing an IR climate that respondents perceive

as somewhat positive, but not at all consolidated. The overall IR index (mean of the seven constructs) was 3.43 (SD = 0.49). Overall job satisfaction was the least favourable of the variables studied ($M = 3.04$, $SD = 0.69$), essentially at a neutral point, an early indication that favourable institutional ratings do not necessarily lead to felt satisfaction. Figure 2 displays the construct means.

Table 2: Descriptives and reliability (N = 356)

Construct	Items	α	CR	AVE	M	SD	Skew	Kurt
Employee–management relations (EMR)	6	.805	.860	.507	3.46	0.56	0.15	−0.12
Collective bargaining (CB)	6	.802	.859	.504	3.48	0.57	−0.12	0.00
Trade unions (TU)	6	.825	.873	.534	3.45	0.60	0.08	−0.29
Participative management (PM)	6	.825	.873	.533	3.36	0.59	−0.04	−0.07
Health, safety & welfare (HSW)	6	.837	.880	.552	3.52	0.61	−0.13	−0.21
Grievance handling (GH)	5	.817	.872	.577	3.33	0.64	0.02	−0.33
Effective industrial relations (EIR)	5	.798	.861	.553	3.42	0.60	−0.20	0.32
Overall job satisfaction (single item)	1	—	—	—	3.04	0.69	−0.10	−0.42
Perceived industrial harmony (single item)	1	—	—	—	3.42	0.71	−0.02	0.00

Note: α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted. Full 40-item instrument $\alpha = .955$. All items scored 1–5. Results showed that the standardised factor loadings within constructs were between .657 and .788.

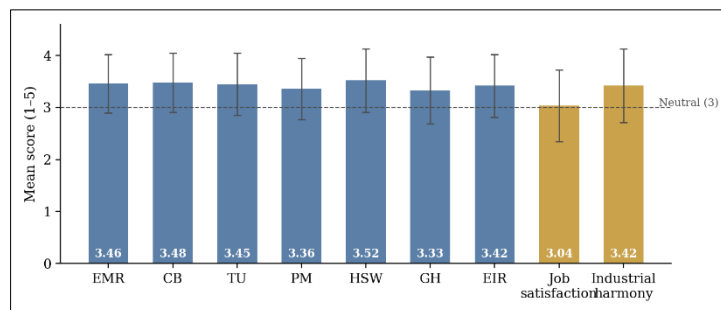


Fig 2: Mean scores of study variables with standard deviations (error bars); dashed line marks the scale midpoint (3 = neutral).

4.3. Correlations and Discriminant Validity

Construct correlation (lower triangle), square roots of AVE (diagonal) and HTMT ratio (upper triangle) are calculated and presented in Table 3. Correlations were all positive and significant at $p < .001$, with r 's ranging from .567 to .673. All the hypothesised antecedents were highly correlated with EIR ($r = .631$ – $.673$). The results met both the discriminant-validity criteria, with the diagonal element higher than the other elements on the same row and column, and no HTMT ratio

above the cut-off value of .85 (Henseler *et al.*, 2015)^[17]. The criterion validity of the criterion variables was supported by the correlation of EIR with job satisfaction ($r = .570$, $p < .001$) and perceived industrial harmony ($r = .669$, $p < .001$). The antecedents were correlated with job satisfaction ($r = .467$ – $.610$, $p < .001$) and harmony ($r = .487$ – $.598$, $p < .001$). All correlations between predictors were below the .80 level required to indicate problematic multicollinearity.

Table 3: Discriminant validity: correlations (lower triangle), $\sqrt{AVE}$ (diagonal, bold) and HTMT ratios (upper triangle)

Construct	1	2	3	4	5	6	7
1. EMR	.712	.800	.757	.778	.787	.825	.825
2. CB	.643	.710	.696	.753	.776	.735	.823
3. TU	.616	.567	.731	.703	.697	.724	.777
4. PM	.635	.614	.580	.730	.780	.748	.829
5. HSW	.646	.637	.580	.649	.743	.696	.813
6. GH	.668	.594	.594	.615	.576	.760	.803
7. EIR	.662	.659	.631	.673	.665	.649	.744

Note: N = 356. Pearson correlations (all $p < .001$, two-tailed) are displayed in the lower triangle. Diagonal (bold): square root of AVE. Upper triangle: heterotrait–monotrait (HTMT) ratios; all $< .85$.

4.4. Simple Regressions Testing H1–H5

Table 4 presents the simple regressions that are related to (H1–H5). All the relationships hypothesized were positive and highly significant. Employee–management relations explained 43.8% of the variance in EIR ($\beta = .662$, $t = 16.60$, $p < .001$), collective bargaining 43.4% ($\beta = .659$, $t = 16.47$, $p < .001$), trade union functioning 39.8% ($\beta = .631$, $t = 15.30$, p

$< .001$) and health, safety and welfare 44.2% ($\beta = .665$, $t = 16.75$, $p < .001$). Participative management explained 35.2% of the variance in job satisfaction ($\beta = .593$, $t = 13.87$, $p < .001$) and 29.9% of the variance in perceived industrial harmony ($\beta = .547$, $t = 12.29$, $p < .001$). H1, H2, H3, H4(a), H4(b) and H5 were therefore all supported.

Table 4: Simple linear regressions were used to test H1–H5 (N = 356)

Hypothesis (IV → DV)	b	SE	95% CI for b	β	t	R ²	F (1, 354)
H1: EMR → EIR	0.703	0.042	[0.620, 0.786]	.662	16.60***	.438	275.60***
H2: CB → EIR	0.690	0.042	[0.608, 0.773]	.659	16.47***	.434	271.17***
H3: TU → EIR	0.627	0.041	[0.546, 0.708]	.631	15.30***	.398	233.95***
H4a: PM → Job satisfaction	0.694	0.050	[0.596, 0.792]	.593	13.87***	.352	192.37***
H4b: PM → Industrial harmony	0.662	0.054	[0.556, 0.768]	.547	12.29***	.299	150.93***
H5: HSW → EIR	0.659	0.039	[0.582, 0.736]	.665	16.75***	.442	280.43***

Note: CI = confidence interval, b = unstandardised coefficient, β = standardised coefficient. Breusch–Pagan tests are non-significant for all models ($p \geq .059$); standardised residuals are approximately normally distributed. *** $p < .001$.

4.5. Combined Model: Unique Contributions

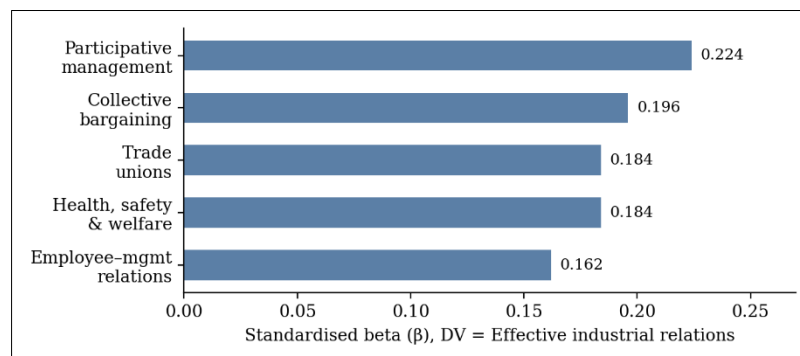
The five antecedents of EIR were intercorrelated, hence, a combined multiple regression of EIR on EMR, CB, TU, PM and HSW was estimated (Table 5). The model was highly significant, $F(5, 350) = 116.58$, $p < .001$, and explained 62.5% of the variance in EIR (adjusted $R^2 = .619$). There was no collinearity issues (Tolerance.43 to .53, Variance Inflation Factor 1.90 to 2.34). There was no autocorrelation of the residuals (Durbin–Watson = 1.89), nor any heteroscedasticity (Breusch–Pagan $p = .643$) or deviation from normality. The

unique effects of all five predictors were significant, with participative management the largest ($\beta = .224$, $p < .001$), followed by collective bargaining ($\beta = .196$), trade unions ($\beta = .184$) and welfare provision ($\beta = .184$), and employee–management relations ($\beta = .162$). The pattern suggests that the mechanisms act independently of one another in their effect on IR effectiveness, and that after controlling for the overlapping variance, voice-through-participation has the highest unique variance. Figure 3 shows the relative size of the standardised coefficients.

Table 5: Five antecedents of effective industrial relations were multiple regressed on the criterion (N = 356)

Predictor	b	SE	95% CI for b	β	t	p	VIF
(Constant)	0.070	0.148	[-0.206, 0.347]		0.47	.637	
Employee–management relations	0.172	0.053	[0.067, 0.276]	.162	3.22	.001	2.34
Collective bargaining	0.206	0.050	[0.107, 0.305]	.196	4.09	<.001	2.15
Trade unions	0.183	0.045	[0.094, 0.271]	.184	4.07	<.001	1.90
Participative management	0.228	0.049	[0.131, 0.325]	.224	4.63	<.001	2.19
Health, safety & welfare	0.182	0.049	[0.085, 0.278]	.184	3.71	<.001	2.28

Note: $R = .790$, $R^2 = .625$, adjusted $R^2 = .619$, $F(5, 350) = 116.58$, $p < .001$; Durbin–Watson = 1.89; tolerance.43–.53. Breusch–Pagan LM(5) = 3.37, $p = .643$; standardised residuals approximately normal (skew = 0.02, kurtosis = 0.36).

**Fig 3:** Standardised regression coefficients (β) of the five antecedents in the combined model (DV = effective industrial relations).

4.6. Test of H6: Worker–Officer Perception Differences

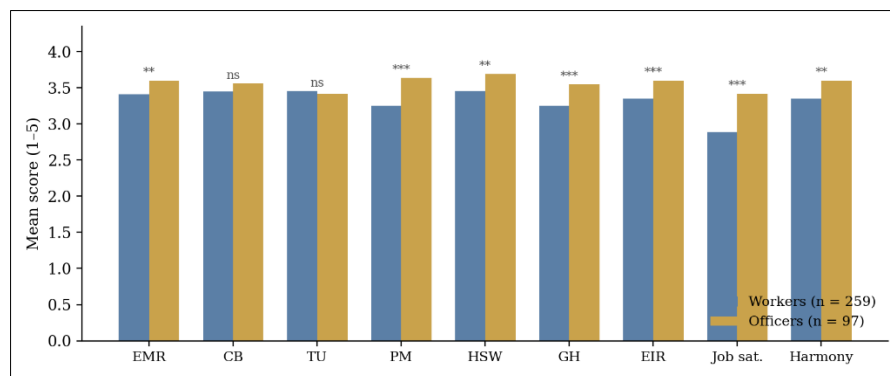
Independent samples t-tests are reported in Table 6. Results of Levene's tests showed no significance for all variables thus equal variance was assumed. On seven out of nine variables, officers gave the IR climate a much more favourable rating compared to the workers. The gap was largest for job satisfaction (workers $M = 2.89$ vs officers $M = 3.42$; $t(354) = -6.88$, $p < .001$, $d = 0.82$) and participative management (3.25 vs 3.64; $t = -5.74$, $p < .001$, $d = 0.68$). Other more minor but important differences were observed for grievance handling ($d = 0.49$), overall EIR ($d = 0.43$), welfare provision ($d =$

0.38), industrial harmony ($d = 0.35$) and employee–management relations ($d = 0.33$). Effect sizes were judged based on Cohen's (1988) [8] guidelines. Perceptions of collective bargaining ($t = -1.56$, $p = .119$), and trade union functioning ($t = 0.51$, $p = .611$), however, were not cadre specific. Thus H6 was supported, albeit to a limited extent, and with a marginally sensible pattern—the perception gap is particularly strong in the managerially-governed domains and not found in the union-governed, jointly-managed domains. Figure 4 visualises the worker–officer comparison.

Table 6: Independent-samples t-tests were performed: workers (n = 259) and officers (n = 97)

Variable	Workers M (SD)	Officers M (SD)	t (354)	p	Cohen's d
Employee–management relations	3.41 (0.56)	3.60 (0.55)	-2.79	.006	0.33
Collective bargaining	3.45 (0.59)	3.56 (0.53)	-1.56	.119	0.19
Trade unions	3.46 (0.62)	3.42 (0.56)	0.51	.611	0.06
Participative management	3.25 (0.58)	3.64 (0.52)	-5.74	<.001	0.68
Health, safety & welfare	3.46 (0.60)	3.69 (0.60)	-3.17	.002	0.38
Grievance handling	3.25 (0.62)	3.55 (0.63)	-4.08	<.001	0.49
Effective industrial relations	3.35 (0.59)	3.60 (0.58)	-3.60	<.001	0.43
Overall job satisfaction	2.89 (0.66)	3.42 (0.63)	-6.88	<.001	0.82
Perceived industrial harmony	3.35 (0.70)	3.60 (0.73)	-2.94	.004	0.35

Note: Negative t indicates: workers lower than officers. Levene's tests: Equal variances assumed; all variables have equal variances ($p \geq .06$). Absolute d effect sizes.

**Fig 4:** Mean scores of workers versus officers on the study variables. Markers above the bars denote the significance of the difference (ns = not significant; all other differences significant at $p < .01$ or better).

The satisfaction gap was confirmed using a supplementary chi-square test. When job satisfaction was re-coded into a dissatisfied/neutral/satisfied continuum, 47.4% of the officers and only 15.8% of the workers rated themselves as satisfied, while 25.9% of the workers and 6.2% of the officers rated themselves as being dissatisfied, $\chi^2(2, N = 356) = 43.97$, $p < .001$. There is thus strong association between cadre and satisfaction.

4.7. Inter-Company Differences

The results indicated that the five units were broadly similar on most of the measures of IR—collective bargaining, participative management, grievance handling and overall

EIR did not differ across firms significantly, according to one-way ANOVAs (Table 7)—so that the results were not firm specific. Two exceptions emerged. Results showed that health, safety and welfare were significantly different between the units, $F(4, 351) = 4.23$, $p = .002$; Tukey HSD comparing differences indicated that the Aligarh–Amroha unit had a rating that was significantly lower than that of Rampur ($p = .002$), Muzaffarnagar ($p = .031$), Meerut ($p = .011$). Employee–management relations were also marginally different at the edge, $F(4, 351) = 2.52$, $p = .041$, however, none of the pairwise Tukey contrasts was significant. Figure 5 illustrates the company-wise HSW ratings.

Table 7: Construct scores for the 5 companies – One-way ANOVA

Construct	Radico M	Mohan Meakin M	Triveni M	Wave M	AB InBev M	F (4, 351)	p
Employee–management relations	3.55	3.42	3.47	3.30	3.55	2.52	.041
Collective bargaining	3.53	3.49	3.45	3.38	3.55	0.93	.445
Trade unions	3.51	3.46	3.44	3.28	3.55	2.08	.083
Participative management	3.39	3.32	3.39	3.29	3.40	0.51	.725
Health, safety & welfare	3.64	3.51	3.57	3.27	3.60	4.23	.002
Grievance handling	3.33	3.30	3.35	3.26	3.41	0.56	.694
Effective industrial relations	3.47	3.40	3.41	3.29	3.51	1.26	.284

Note: Tukey HSD for HSW: Wave < Radico ($p = .002$), Wave < Triveni ($p = .031$), Wave < AB InBev ($p = .011$). The Levene's test was significant only for CB ($p = .001$) but in all cases the ANOVA was not significant.

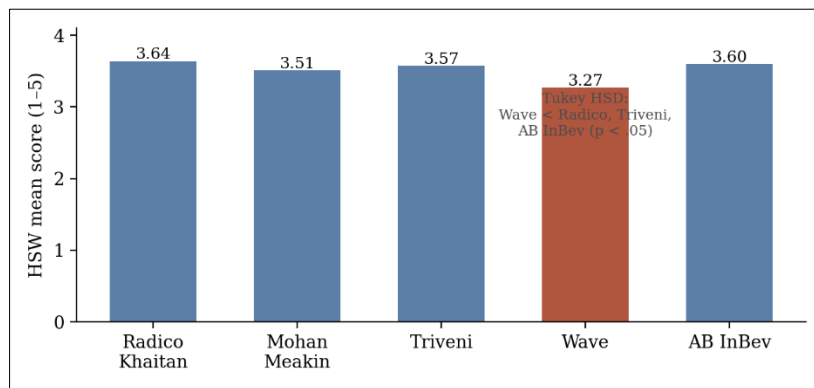


Fig 5: Health, safety and welfare (HSW) mean scores by company; the Aligarh–Amroha (Wave) unit is rated significantly lower than three other units.

4.8. Summary of Hypothesis Tests

Table 8: The conclusions of hypothesis tests are summarized

Hypothesis	Test	Key statistic	Decision
H1: EMR → effective IR	Simple regression	$\beta = .662, p < .001$	Supported
H2: CB → effective IR	Simple regression	$\beta = .659, p < .001$	Supported
H3: TU → effective IR	Simple regression	$\beta = .631, p < .001$	Supported
H4a: PM → job satisfaction	Simple regression	$\beta = .593, p < .001$	Supported
H4b: PM → industrial harmony	Simple regression	$\beta = .547, p < .001$	Supported
H5: HSW → effective IR	Simple regression	$\beta = .665, p < .001$	Supported
H6: worker–officer difference	t-tests / χ^2	7 of 9 variables significant; $\chi^2(2) = 43.97, p < .001$	Substantially supported

5. Discussion

The objective of this study was to identify factors that underlie good IR in a sector (Indian liquor manufacturing) where there has been virtually no systematic evidence and to examine if the IR climate is seen in the same way from the top of the hierarchy to the bottom. Four findings will be discussed.

First, the results confirm the pluralist–systems perspective that IR effectiveness is the product of various institutional mechanisms, not one, per se (Dunlop, 1958; Budd, 2004)^[9, 5]. When each antecedent was used individually, it had an average variance of 30–44% of its respective criterion, and when they were used together, the five accounted for an unusually high 62.5% of the variance in IR effectiveness, with each antecedent maintaining a significant unique effect. Thus, it seems that employment relations in these units have a truly multi-pillared structure; the withdrawal of any one pillar (bargaining, unions, participation, welfare or day-to-day relational quality) would be expected to have a negative impact on the overall climate.

Second, the relative values of weights are informative. The strongest correlates of IR effectiveness were welfare provision and everyday employee–management relations, but after shared variance was removed, participative management became the single strongest unique predictor of IR effectiveness, as well as the strongest of the drivers of job satisfaction and harmony. This is in line with the voice literature which finds that distributive institutions (bargaining, unions) legitimise outcomes while it is integrative, consultative involvement in decisions that most distinctly alters the experience of the relationship (Freeman & Medoff, 1984; Guest, 1987)^[14, 15]. The finding indicates large unexploited returns to making works committees more than rhetorical in an industry where most have been ceremonial.

Third, the study of the worker–officer relationship results in

a structured not diffuse perception gap. There was a larger gap in ratings on every dimension of the climate administered by the manager – participation ($d = 0.68$), grievance handling ($d = 0.49$), welfare ($d = 0.38$), general relations and overall effectiveness, with only 15.8% of workers compared with 47.4% of officers describing themselves as satisfied with the climate for job satisfaction. But for the two areas under joint jurisdiction, collective bargaining and trade unions, there was no gap between worker and officer perceptions. As an example, in some institutions, bilateral and worker-owned, evaluations are shared, while in others, practices are unilaterally designed and administered by management, those who administer them systematically overrate them relative to those who experience them, as a frames-of-reference account predicts (Fox, 1966). The pattern also warns of IR climate research that consists of sampling managers only.

Fourth, the inter-company comparisons suggest that the observed IR configuration is more a sectoral phenomenon: 4/5 units were not significantly different on most dimensions. The one notable exception (significantly lower ratings for health, safety and welfare at the Aligarh–Amroha unit) illustrates the instrument's diagnostic usefulness in comparing the performance of plants against the region average.

6. Implications, Limitations and Conclusion

6.1. Theoretical Implications

The study introduces Indian IR scholarship into a hitherto unmeasured sector and provides quantitative support to three theoretical propositions: (i) IR effectiveness is a multi-determined system outcome as per Dunlop's framework; (ii) voice-through-participation provides additional explanations beyond distributive institutions as per efficiency–equity–voice theorising (Budd, 2004)^[5]; and (iii) frames of reference produce measurable, domain-specific perception

asymmetries between hierarchical positions, usually asserted qualitatively, but here quantified with seven domain effect sizes.

6.2. Managerial and Policy Implications

The three priorities following from the coefficients, for Managements in the sector, are: The first is to invest in genuine participative structures: working works committees, consultive procedures before decisions are made which impact on the workers and actual uptake of worker suggestions, as participation has a greatest unique impact on IR effectiveness and satisfaction. The second is to improve grievance machinery: grievance handling had the lowest construct rating ($M = 3.33$), one of the largest worker/officer differences, and is the area most subject to management. The grievance item which received the lowest rating – Assurance against retaliation – deserves special attention. The third is to audit welfare and safety provision plant by plant; the much lower HSW rating at one of the units demonstrates that the sector-average compliance can overlook deficiencies at a local level. Generally, the officer–worker satisfaction gap is neither small enough to be ignored nor too large to be easily corrected, warning managements not to blindly adjust IR policy based on officers' feedback. For unions, the "common ground" that exists between worker and officer perceptions of bargaining and union functioning provides a starting point for developing a more ambitious integrative agenda, particularly regarding participation and contract-labour welfare. The results show that, for policymakers engaged in the implementation of the new Labour Codes, the introduction of statutory bargaining and welfare floors are essential, but they are not enough: the biggest payoffs are to be found in institutionalising effective participation and grievance redressal.

6.3. Limitations and Future Research

The results have four limitations. First, because of the cross-sectional design, it is impossible to make a causal inference as the estimated relationship is association, and reverse or recursive cause cannot be ruled out (e.g. a peaceful climate may facilitate bargaining). Quasi-experimental or longitudinal designs following plants while in wage settlements and/or Code implementation would improve causal claims. Second, the convenience sampling applied in the purposively selected units makes it difficult to make inferential statements beyond the five plants included. This constraint can be ameliorated but not eliminated by the structured coverage of cadres, departments and employment types and the near-equivalence of most construct means across units; probability sampling from rosters of employers where access is possible remains the gold standard. Third, common method variance cannot be completely ruled out since all variables were self-reported by the same respondents. Although the single-factor test (36.4% first-factor variance), the clean seven-factor structure and the differentiated worker–officer pattern all suggest that there is no pervasive method factor, it is important to include objective indicators (dispute frequency, absenteeism, grievance-settlement times) and procedural remedies (temporally separated measurement) in future studies. Fourth, although common, single-item measures of satisfaction and harmony limit the possibilities for estimating reliability. For future research, the model could be expanded to address the contract-versus-permanent comparison,

mediation (e.g., participation to satisfaction to IR effectiveness) could be tested, and replication of the design in liquor-producing clusters of other states could be used to examine regional contingency.

6.4. Conclusion

This study, based on a survey of 356 workers and officers of five liquor manufacturing units in Western Uttar Pradesh, reveals that four factors, namely sound everyday employee–manage relations, functioning collective bargaining, constructive trade unionism, and participatory management along with adequate health, safety and welfare provision are the five pillars of effective IR and these five account for almost two-thirds of the variation in perceived IR climate. It is participation that has the highest unique weighting, and the climate is seen much worse from the shop floor than the office, just in the areas where management has complete control. To achieve this industrial peace, therefore, managements will have to shift the participative process and the redressal of grievances from form to substance, and listen, systematically, to the "man" in the relationship.

References

1. Aidt T, Tzannatos Z. Unions and collective bargaining: economic effects in a global environment. Washington, DC: World Bank; 2002.
2. Barry M, Wilkinson A. Employee voice, psychologisation and human resource management (HRM). *Hum Resour Manag J.* 2022;32(3):631-646. doi:10.1111/1748-8583.12415.
3. Bhattacharjee D. The evolution of Indian industrial relations: a comparative perspective. *Ind Relat J.* 2001;32(3):244-263.
4. Bhuta A. Imbalancing act: India's Industrial Relations Code, 2020. *Indian J Labour Econ.* 2022;65(3):821-830. doi:10.1007/s41027-022-00389-3.
5. Budd JW. Employment with a human face: balancing efficiency, equity, and voice. Ithaca, NY: Cornell University Press; 2004.
6. Chatterjee M, Majumder S. Industrial relation climate and provision of labour welfare measures in manufacturing sector. *Rev Prof Manag.* 2024. Advance online publication. doi:10.1177/09728686241256773.
7. Clegg HA. Trade unionism under collective bargaining: a theory based on comparisons of six countries. Oxford: Blackwell; 1976.
8. Cohen J. Statistical power analysis for the behavioral sciences. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum; 1988.
9. Dunlop JT. Industrial relations systems. New York, NY: Holt; 1958.
10. Flanders A. Industrial relations: what is wrong with the system? London: Faber & Faber; 1965.
11. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *J Mark Res.* 1981;18(1):39-50.
12. Fox A. Industrial sociology and industrial relations. Royal Commission Research Paper No. 3. London: HMSO; 1966.
13. Fox A. Beyond contract: work, power and trust relations. London: Faber & Faber; 1974.
14. Freeman RB, Medoff JL. What do unions do? New York, NY: Basic Books; 1984.
15. Guest DE. Human resource management and industrial

- relations. *J Manag Stud.* 1987;24(5):503-521.
16. Hair JF, Black WC, Babin BJ, Anderson RE. *Multivariate data analysis.* 8th ed. Andover: Cengage; 2019.
 17. Henseler J, Ringle CM, Sarstedt M. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J Acad Mark Sci.* 2015;43(1):115-135.
 18. Kaiser HF. An index of factorial simplicity. *Psychometrika.* 1974;39(1):31-36.
 19. Karnik VB. *Indian trade unions: a survey.* Bombay: Popular Prakashan; 1978.
 20. Kaufman BE. *The global evolution of industrial relations: events, ideas and the IIRA.* Geneva: International Labour Office; 2004.
 21. Nunnally JC, Bernstein IH. *Psychometric theory.* 3rd ed. New York, NY: McGraw-Hill; 1994.
 22. Papola TS. Structural adjustment, labour market flexibility and employment. *Indian J Labour Econ.* 1994;37(1):3-16.
 23. Podsakoff PM, MacKenzie SB, Lee JY, Podsakoff NP. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J Appl Psychol.* 2003;88(5):879-903.
 24. Ramaswamy EA. *The worker and his union: a study in South India.* Bombay: Allied Publishers; 1977.
 25. Roy GK, Dubey A. A note on Industrial Relations Code, 2020. *Indian J Labour Econ.* 2022;65(2):533-543. doi:10.1007/s41027-022-00368-8.
 26. Sengupta AK, Sett PK. Industrial relations law, employment security and collective bargaining in India: myths, realities and hopes. *Ind Relat J.* 2000;31(2):144-153.
 27. Shyam Sundar KR. *Globalization, labour market institutions, processes and policies in India.* Singapore: Palgrave Macmillan; 2019.
 28. Venkata Ratnam CS. *Industrial relations.* New Delhi: Oxford University Press; 2006.
 29. Wilkinson A, Donaghey J, Dundon T, Freeman RB, editors. *Handbook of research on employee voice.* 2nd ed. Cheltenham: Edward Elgar; 2020.

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