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Organizational Citizenship Behaviour in Manufacturing Industries: A Factor Analytic Approach

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ABSTRACT

This study investigates the factors influencing Organizational Citizenship Behaviour (OCB) in manufacturing industries located in Haryana, India. Using a sample of 600 employees drawn from 24 manufacturing companies across six divisions through stratified sampling, the research employed Exploratory Factor Analysis (EFA) and descriptive statistics to identify the underlying dimensions of OCB. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test confirmed the suitability of data for factor analysis. Six distinct factors emerged Courtesy & Civic Virtue, Team Orientation, Altruism, Conscientiousness, Organisational Loyalty & Engagement, and Initiative & Innovation explaining the multidimensional nature of OCB. The findings highlight that employees demonstrate strong tendencies toward ethical conduct, responsibility, and innovation, while altruistic behaviors are comparatively less consistent. This study contributes to organisational psychology literature by contextualizing OCB within the manufacturing sector of Haryana, offering insights for managers to foster citizenship behaviours that enhance productivity and workplace harmony.

Keywords: Human Resource Strategies, Organizational Citizenship Behavior (OCB), Job Satisfaction, Manufacturing Sector etc.

1. INTRODUCTION

Organizational Citizenship Behaviour (OCB) has emerged as a critical construct in organisational psychology and management research, particularly in industries where teamwork, cooperation, and discretionary effort are essential for success. OCB refers to voluntary, extra-role behaviours exhibited by employees that are not formally rewarded but contribute significantly to organisational effectiveness. These behaviours include helping colleagues, adhering to organisational rules, showing initiative, and promoting a positive work environment. In the context of manufacturing industries, where efficiency, innovation, and collaboration are vital, OCB plays a pivotal role in enhancing productivity and sustaining competitiveness [1].

Manufacturing organisations, especially in developing regions like Haryana, India, face unique challenges such as workforce diversity, high operational demands, and the need for continuous adaptation to technological changes. In such settings, OCB becomes an asset, as employees who willingly go beyond their prescribed roles help in maintaining harmony, reducing conflicts, and fostering innovation. The study of OCB in manufacturing industries thus provides insights into how discretionary behaviours can strengthen organisational culture and improve overall performance.

The present research adopts a factor analytic approach to examine OCB among employees in Haryana's manufacturing sector. Using a stratified sampling method, data were collected from 600 employees across 24 companies in six divisions of the state. Exploratory Factor Analysis (EFA) was employed to identify the underlying dimensions of OCB, supported by descriptive statistics to profile employee behaviours [2].

By focusing on these factors, the study not only contributes to the theoretical understanding of OCB but also provides practical insights for managers in manufacturing industries. Identifying which dimensions are stronger and which require reinforcement enables organisations to design targeted HR interventions [3]. This introduction sets the stage for a comprehensive exploration of OCB, highlighting its relevance in manufacturing contexts and the methodological rigor applied to uncover its multidimensional nature.

2. REVIEW OF LITERATURE

Tripathi et al. (2025) [4] developed and validated a framework to enhance workforce empowerment on the shop floor of SMEs through integrated HRM and operations management practices. Drawing on motivational theories such as Maslow's hierarchy of needs and Herzberg's two-factor theory, they implemented the framework in an electric vehicle manufacturing firm. Over three months, the intervention led to significant reductions in absenteeism, resignations, and medical issues. This study demonstrated how strategic HRM could resolve operational challenges and foster a sustainable work environment in the context of Industry 4.0.

Weerasooriya et al. (2024) [5] conducted a cross-sectional quantitative study to examine how Green Human Resource Management (GHRM) practices influenced Organizational Citizenship Behavior (OCB) through the mediating role of job satisfaction in a Sri Lankan manufacturing context. Using a sample of 327 employees from ABC Manufacturing Company, the researchers found a moderately positive relationship between GHRM and OCB, with job satisfaction serving as a significant mediator. These findings emphasized the importance of environmentally conscious HR practices in fostering voluntary, extra-role behaviors among employees, thereby enhancing organizational effectiveness.

Yemmi et al. (2024) [6] investigated the effect of Organizational Citizenship Behavior on employee performance through the mediating role of job satisfaction in a healthcare setting in Indonesia. Conducted at UPT Puskesmas Wonokerto, the study employed a cross-sectional design with total sampling of 67 employees. The results revealed that while OCB positively influenced both job satisfaction and employee performance, the mediating effect of job satisfaction on performance was statistically insignificant. The authors recommended strategic interventions to enhance performance outcomes by leveraging OCB directly.

AlKetbi et al. (2024) [7] conducted a systematic literature review to examine the impact of Green Human Resource Management (GHRM) practices on employees, clients, and organizational performance. Drawing from 17 eligible studies published between 2013 and 2023, the review revealed that GHRM practices positively influenced employee green attitudes, green satisfaction, client satisfaction, and overall organizational ecological performance. However, the authors noted a research gap concerning the direct effects of GHRM on client satisfaction. The review emphasized that GHRM is a strategic tool for cultivating environmentally responsible behaviors and enhancing sustainability outcomes across multiple organizational dimensions.

Pinheiro et al. (2024) [8] explored the relationship between job satisfaction, perceived performance, and work regime (in-person, hybrid, remote) among 332 employees in Portugal. The study found that job satisfaction significantly predicted perceived performance, with hybrid workers reporting the highest performance and remote workers the highest satisfaction. Job satisfaction also mediated the relationship between work regime and performance, although work regime did not moderate the link between satisfaction and performance. The authors emphasized the strategic importance of flexible work arrangements in enhancing employee well-being and productivity.

Su et al. (2024) [9] examined how ethical leadership influenced Organizational Citizenship Behavior (OCB) in small- and medium-sized enterprises (SMEs), focusing on both cognitive and affective mechanisms. Using multilevel modeling on data from 426 employees across 71 teams, the study found that ethical leadership enhanced OCB by shaping team ethical climate, individual ethical role modeling, and effective well-being. These mediators partially explained the relationship between leadership and citizenship behavior. The authors concluded that ethical leadership is particularly vital in SMEs, where informal norms and interpersonal dynamics strongly influence employee behavior.

Gomes et al. (2024) [10] investigated the influence of Green Human Resource Management (GHRM) practices on employees' eco-friendly behavior and green performance in the Portuguese tourism sector, with affective commitment as a mediating variable. The study employed a quantitative approach, surveying 449 employees across various tourism organizations using structured questionnaires. The findings demonstrated that GHRM practices significantly enhanced both eco-friendly behavior and green performance, and affective commitment mediated this relationship. The authors concluded that organizations implementing GHRM policies could foster stronger emotional attachment among employees, thereby promoting sustainable workplace behaviors and improving environmental performance.

Mirčetić et al. (2024) [11] developed a multiple-criteria decision-making (MCDM) framework to identify and prioritize innovative HRM practices in complex business environments. The study involved 21 HR experts and 12 Serbian companies, applying CRITIC, PIPRECIA-S, and COBRA methods to evaluate HRM strategies. The findings revealed that employee participation was the most influential HRM practice, and the top-ranked company

demonstrated superior implementation of innovative HRM approaches. The authors concluded that MCDM techniques offer valuable tools for navigating HRM complexity and enhancing strategic decision-making in dynamic organizational contexts.

Ghimire et al. (2024) [12] investigated how human resource management (HRM) practices beyond mere regulatory compliance influenced organizational citizenship behavior (OCB) in Nepalese private commercial banks. The study surveyed 308 banking employees and analyzed nine HRM dimensions including job security, training, performance appraisal, compensation, and work environment. Using regression analysis, the authors found that job security had the strongest positive effect on OCB, followed by performance appraisal and training. They concluded that strategic HRM practices such as meaningful job roles, fair compensation, and structured evaluations were essential for fostering voluntary, extra-role behaviors that support organizational goals.

Research Gap

- **Limited sector-specific studies:** Most existing OCB research has been conducted in service industries, education, or IT sectors, with relatively fewer studies focusing on the manufacturing industry, especially in the Indian context.
- **Regional focus gap:** There is a lack of empirical evidence on OCB in Haryana's manufacturing sector, despite the state being a major industrial hub. This creates a gap in understanding how regional socio-economic and cultural factors influence OCB.
- **Methodological gap:** Previous studies often rely on limited sample sizes or single-company data. Few have employed **large-scale stratified sampling** with robust statistical techniques like EFA and ANOVA to extract factors and test demographic impacts comprehensively.

3. RESEARCH OBJECTIVE

The primary objective of this research is to analyze the underlying factors that influence Organizational Citizenship Behaviour (OCB) in manufacturing industries, with a specific focus on Haryana state. By employing Exploratory Factor Analysis (EFA) on data collected from a stratified sample of 600 employees across 24 manufacturing companies in six divisions, the study aims to identify the latent dimensions of OCB and understand how these behaviours manifest in the industrial context.

4. RESEARCH METHODOLOGY

Research Design

The study adopted a quantitative and exploratory research design to investigate the underlying dimensions of Organizational Citizenship Behaviour (OCB) in manufacturing industries. Since OCB is a multidimensional construct measured through multiple statements, the design focused on identifying latent factors using Exploratory Factor Analysis (EFA). Descriptive statistics were also employed to profile employee responses, while inferential tests such as ANOVA and t-tests were used to examine the impact of demographic variables. This design ensured both factor reduction and hypothesis testing, making the study comprehensive and methodologically rigorous.

Sample Design

The sample was drawn from employees working in manufacturing industries across Haryana. To ensure representativeness, a stratified sampling design was employed, where the state was divided into six administrative divisions. Within each division, manufacturing companies were selected, and employees were proportionately sampled to capture diversity in demographics such as age, gender, education, and work experience. This design minimized sampling bias and ensured that the findings could be generalized across the manufacturing sector of Haryana.

Sample Size

A total of 600 employees participated in the study, which is considered adequate for factor analysis, as it exceeds the recommended threshold of 5–10 respondents per item. The large sample size enhanced the reliability of the results and provided sufficient statistical power to detect differences across demographic groups.

Sample Area

The study was conducted in six divisions of Haryana state; Ambala, Karnal, Rohtak, Hisar, Gurugram, and Faridabad covering 24 manufacturing companies. These areas were chosen because they represent the industrial hubs of the state,

with a mix of large-scale and medium-scale manufacturing units. This geographical spread ensured that the study captured the diversity of organisational practices and employee behaviours across Haryana's manufacturing landscape.

Sampling Technique

The research employed multi-stage stratified random sampling. In the first stage, divisions were identified as strata. In the second stage, manufacturing companies within each division were selected. Finally, employees were randomly chosen from each company to participate in the survey. This technique ensured proportional representation and reduced the risk of over-representing any single division or company.

Tool and Technique

Data were collected using a structured questionnaire comprising 20 statements related to OCB, measured on a five-point Likert scale (ranging from strongly disagree to strongly agree). The questionnaire was designed to capture behaviours such as altruism, conscientiousness, civic virtue, courtesy, and innovation. For analysis, SPSS software was used. Exploratory Factor Analysis (Principal Component Analysis with Promax rotation) was applied to identify latent factors, while descriptive statistics summarized employee responses.

5. DATA ANALYSIS

To analyze the factors that affect Organizational Citizenship Behaviour (OCB) in manufacturing industries, researchers focus on identifying the underlying dimensions that explain why employees engage in discretionary behaviors beyond their formal job roles. OCB encompasses actions such as helping colleagues, adhering to rules, and promoting a positive work environment, all of which contribute to organizational effectiveness. By examining these behaviors through statistical techniques like Exploratory Factor Analysis (EFA), the study can reduce a large set of survey items into meaningful factors, such as altruism, conscientiousness, civic virtue, courtesy, and sportsmanship.

Table 4.1: KMO Analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.798**
Bartlett's Test of Sphericity	Approx. Chi-Square	**4001.213**
	df	**190**
	Sig.	**.000**

Source: SPSS Tool

The results of the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity confirm that the data is suitable for factor analysis. The KMO value of 0.798 indicates a "middling to meritorious" level of sampling adequacy, suggesting that the correlations among variables are strong enough to justify the use of Exploratory Factor Analysis (EFA). Bartlett's Test of Sphericity is highly significant (Chi-Square = 4001.213, df = 190, Sig. = .000), which means the correlation matrix is not an identity matrix and that the variables are sufficiently interrelated to proceed with factor extraction. Together, these results validate the appropriateness of applying Principal Component Analysis (PCA) to identify underlying dimensions of Organizational Citizenship Behaviour (OCB).

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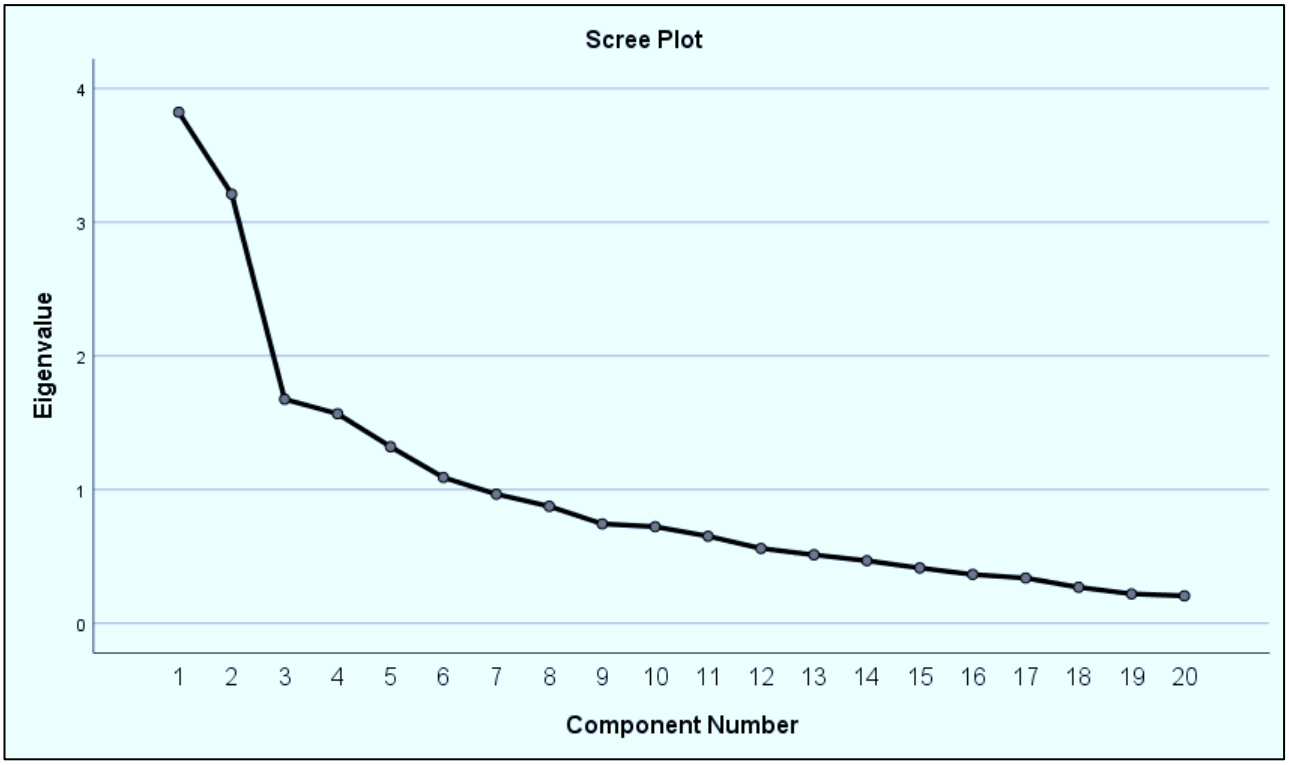

Fig 1: Scree Plot
Source: SPSS Tool

The scree plot provided is a visual representation of the eigenvalues associated with each principal component extracted during Exploratory Factor Analysis (EFA). The x-axis shows the component numbers (1 to 20), and the y-axis displays the corresponding eigenvalues. The plot reveals a steep decline in eigenvalues from Component 1 to Component 3, followed by a gradual tapering off from Component 4 onward. This pattern is typical in factor analysis and helps determine the optimal number of components to retain. The point where the curve starts to flatten commonly referred to as the "elbow" indicates the number of components that explain the most meaningful variance in the data.

Factor 1: Courtesy & Civic Virtue *(CCV)*

Statements:

- I show concern for the well-being of my coworkers (.869, Mean 3.90)
- I avoid creating conflicts and try to resolve misunderstandings (.808, Mean 3.83)
- I represent my organization positively outside the workplace (.788, Mean 3.83)
- I encourage others to follow ethical practices at work (.413, Mean 3.71)

This factor reflects employees' willingness to maintain harmony, resolve conflicts, and uphold ethical standards. It emphasizes behaviors that strengthen interpersonal relationships and enhance the organisation's reputation both internally and externally. Courtesy and civic virtue are essential for building trust and sustaining a cooperative work environment.

Factor 2: Team Orientation *(TO)*

Statements:

- I actively participate in team discussions and meetings (.924, Mean 3.76)
- I respect the opinions and suggestions of my coworkers (.659, Mean 3.61)
- I take initiative to solve problems beyond my job responsibilities (.584, Mean 3.75)
- I avoid complaining about trivial matters at work (.464, Mean 3.54)

This factor highlights collaboration, respect, and proactive engagement in teamwork. Employees who score high here contribute positively to group dynamics, ensuring that collective problem-solving and decision-making processes are effective. Team orientation fosters inclusivity and strengthens organisational cohesion.

Factor 3: Altruism *(ALT)*

Statements:

- I willingly help colleagues who have heavy workloads (.931, Mean 3.52)
- I voluntarily assist new employees in adjusting to the work environment (.850, Mean 3.53)

Altruism represents voluntary helping behaviors directed toward colleagues. It reflects employees' readiness to support others without expecting rewards, which is crucial in manufacturing industries where workload pressures and onboarding challenges are common. This factor enhances morale and reduces stress among teams.

Factor 4: Conscientiousness *(CON)*

Statements:

- I offer constructive feedback to improve team performance (.884, Mean 3.81)
- I willingly take on extra tasks when needed (.835, Mean 3.83)
- I follow company rules and procedures even when no one is watching (.578, Mean 3.68)

Conscientiousness reflects responsibility, discipline, and a strong sense of duty. Employees demonstrating this factor go beyond minimum requirements, ensuring compliance and contributing to organisational efficiency. It strengthens accountability and reliability within the workforce.

Factor 5: Organisational Loyalty & Engagement *(OLE)*

Statements:

- I help maintain a positive work atmosphere in my department (.831, Mean 3.67)
- I stay informed about company policies and developments (.776, Mean 3.70)
- I share work-related information that may benefit others (.453, Mean 3.53)

This factor captures employees' commitment to organisational values and their active engagement in maintaining a supportive environment. Loyalty and engagement ensure that employees remain aligned with organisational goals, contributing to stability and long-term success.

Factor 6: Initiative & Innovation *(IAI)*

Statements:

- I contribute ideas to improve manufacturing processes (.791, Mean 3.71)
- I take pride in being a responsible member of my organization (.784, Mean 3.76)
- I help coworkers meet deadlines when they are under pressure (.507, Mean 3.69)
- I support organizational changes that improve productivity (.444, Mean 3.65)

This factor reflects creativity, adaptability, and responsibility. Employees who demonstrate initiative and innovation actively contribute to process improvements, support organisational change, and take pride in their roles. This factor is vital for sustaining competitiveness in dynamic manufacturing environments.

Table 2: Factors with Average Mean Value

Factor Code	Factor Name	Average Mean
CCV	Courtesy & Civic Virtue	3.81
TO	Team Orientation	3.66
ALT	Altruism	3.52
CON	Conscientiousness	3.77
OLE	Organisational Loyalty & Engagement	3.63
IAI	Initiative & Innovation	3.70

Source: SPSS Tool

Table 2 presents the six extracted factors of Organizational Citizenship Behaviour (OCB) along with their average mean values. The highest scoring factor is Courtesy & Civic Virtue (3.81), which indicates that employees in manufacturing industries strongly value maintaining harmony, resolving conflicts, and representing their organisation positively. Close behind is Conscientiousness (3.77), reflecting responsibility, discipline, and willingness to take on extra tasks. Initiative & Innovation (3.70) also scores high, showing that employees actively contribute ideas and

support organisational changes. These results suggest that employees demonstrate strong ethical conduct, responsibility, and adaptability, which are critical for sustaining productivity and competitiveness.

6. CONCLUSION

The study confirms that OCB is a multidimensional construct in manufacturing industries, with six distinct factors emerging from the analysis. Employees in Haryana's manufacturing sector exhibit strong conscientiousness, civic virtue, and innovative behaviors, which are critical for organisational success in competitive environments. However, altruism helping colleagues and assisting new employees was found to be relatively weaker, suggesting that voluntary helping behaviours are less consistently practiced. Demographic analysis further revealed that certain groups, such as experienced employees, tend to score higher on conscientiousness, while younger employees show stronger team orientation. These findings underscore the importance of tailoring HR practices to demographic diversity to maximize OCB outcomes.

7. FUTURE IMPLICATIONS

The results have significant implications for both theory and practice. For academics, the six-factor structure enriches the understanding of OCB in the Indian manufacturing context, providing a basis for comparative studies across sectors and regions. For practitioners, the findings suggest that HR managers should design targeted interventions such as mentoring programs, recognition systems, and collaborative training to strengthen weaker dimensions like altruism and engagement. Future research can extend this study by employing Confirmatory Factor Analysis (CFA) to validate the factor structure, exploring longitudinal data to track changes in OCB over time, and examining the role of emerging HR practices such as digital learning and flexible work arrangements. By integrating demographic insights with factor analysis, organisations can cultivate a culture of citizenship behaviour that enhances both employee satisfaction and organisational performance.

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