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Mathematical Modeling for Non-Linear Behaviorial Analysis of Job Embeddedness on Organization with Improved Statistical Tools

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Abstract:

This research endeavors to enhance our understanding of job embeddedness within organizations by employing advanced mathematical modeling and statistical tools to analyze its non-linear behavioral dynamics. Job embeddedness refers to the extent to which an individual feels deeply connected to their job, colleagues, and the organization, which has significant implications for employee retention, performance, and organizational success. Our study applies cutting-edge statistical techniques, such as nonlinear regression models, machine learning algorithms, and network analysis, to decipher the complex interplay of factors that contribute to job embeddedness. By examining various intrinsic and extrinsic factors, including job satisfaction, organizational culture, social networks, and employee engagement, our mathematical models aim to provide a comprehensive perspective on the phenomenon. Through a rigorous analysis of large-scale organizational datasets, we uncover hidden patterns, nonlinear relationships, and critical tipping points that influence job embeddedness. This research not only contributes to a deeper theoretical understanding of job embeddedness but also offers practical insights for organizational leaders and human resource professionals to design targeted strategies for fostering employee commitment and reducing turnover. Ultimately, our mathematical modeling approach improves the accuracy of predicting and managing job embeddedness within organizations, thereby assisting businesses in creating more engaged, satisfied, and embedded workforces.

Keywords — Statistical Tools, Non Linear Analysis, Job Embeddedness, Mathematical Modeling.

I. INTRODUCTION

The banking sector serves as a cornerstone of the global economy, providing vital financial services that facilitate economic growth, investment, and wealth accumulation. In this dynamic industry, the success of a bank relies significantly on its ability to attract, retain, and motivate talented employees. Job embeddedness, a multifaceted concept that encompasses the extent to which employees feel deeply connected to their job, colleagues, and the organization, plays a pivotal role in the performance and longevity of the workforce within the banking sector. The aim of this research is to delve into the intricate dynamics of job embeddedness in the context of the banking sector, employing advanced mathematical modeling and improved statistical tools to analyze its non-linear behavioral patterns.Job embeddedness, as introduced by Mitchell and Lee in 2001, offers a comprehensive framework to understand the factors that influence an employee's commitment to their job and organization. It recognizes that an individual's decision to stay in a job or leave is influenced by both on-the-job and off-the-job factors.

Within the banking sector, these factors are particularly intricate, given the industry's unique characteristics, including high-pressure work environments, fluctuating market conditions, and the need for trust and integrity.

The banking industry has undergone significant transformations in recent decades, driven by technological advancements, regulatory changes, and shifting customer expectations. This evolving landscape has intensified competition for talent, making it imperative for banks to invest in understanding and enhancing job embeddedness among their employees. A highly

embedded workforce is more likely to exhibit greater commitment, reduced turnover rates, and increased performance, which are crucial for the long-term success and stability of financial institutions. Analyzing job embeddedness within the banking sector poses several challenges. One significant challenge is the non-linearity of the underlying behavioral patterns. Traditional linear models may not capture the complex relationships and interactions between the myriad factors that influence job embeddedness. Additionally, the banking industry operates in a highly dynamic environment where employee sentiments can fluctuate rapidly in response to market events, regulatory changes, and internal organizational shifts. Therefore, it is essential to develop mathematical models and employ advanced statistical tools that can accommodate non-linearities and account for the ever-changing nature of job embeddedness.

Mathematical Modeling and Improved Statistical Tools:

To address these challenges, this research proposes the application of mathematical modeling and advanced statistical tools to gain a deeper understanding of job embeddedness in the banking sector. Mathematical modeling allows for the representation of complex systems and relationships through equations, enabling the exploration of non-linearities and the identification of critical factors that influence job embeddedness. Improved statistical tools, including nonlinear regression models, machine learning algorithms, and network analysis, provide the means to analyze large datasets and extract meaningful insights.

These mathematical models and statistical tools can help uncover hidden patterns, identify critical tipping points, and provide a more accurate prediction of job embeddedness within the banking sector. By doing so, banks can develop targeted strategies to foster job embeddedness among their employees, thereby reducing turnover rates, enhancing performance, and ensuring the long-term success of their organizations. Job embeddedness is a multidimensional construct that describes the extent to which employees feel integrated into their work environment and connected to their organization (Mitchell et al., 2001). It comprises three dimensions: links, fit, and sacrifice. Links refer to the connections that employees have with their colleagues, supervisors, and the organization as a whole. Fit refers to the extent to which employees feel that their skills, values, and goals align with those of the organization. Sacrifice refers to the costs that employees would incur if they were to leave their jobs, such as financial or social costs. Several studies have found a positive relationship between job embeddedness and employee retention (Crossley et al., 2007; Lee et al., 2004).

In conclusion, the banking sector's success hinges on its ability to build and maintain a committed and embedded workforce. Job embeddedness is a critical concept in this context, and understanding its non-linear behavioral dynamics is essential for the long-term sustainability of banks. By employing mathematical modeling and improved statistical tools, this research aims to contribute to a deeper comprehension of job embeddedness in the banking sector and offer actionable insights to enhance employee commitment and reduce turnover rates.

II. RELATEDWORKS

Job Embeddedness:

Job embeddedness is a relatively new concept that has gained significant attention in the literature on employee retention and organization citizenship behavior. Mitchell, Holtom, Lee, Sablynski, and Erez (2001) defined job embeddedness as the "extent to which an employee's job and community fit together, facilitating the employee's ability to remain in the job." Job embeddedness consists of three components: links, fit, and sacrifice.

Links refer to the connections that an employee has with their job, coworkers, and organization. Fit refers to the extent to which an employee's values, goals, and personality match those of the organization. Sacrifice refers to the costs that an employee would incur if they were to leave their job, such as loss of social connections or financial incentives.

Organization Citizenship Behavior:

Organization citizenship behavior (OCB) is defined as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p. 4). OCB is important for the success of an organization because it promotes a positive work environment and enhances the effectiveness of teams.

Organizational citizenship behavior refers to discretionary behaviors that employees engage in to benefit the organization and its members (Organ, 1988). OCB can take various forms, such as helping coworkers, volunteering for extra tasks, and going above and beyond job requirements. OCB is often viewed as an indicator of employee engagement and

commitment to the organization (Masterson et al., 2000).

Several studies have found a positive relationship between job embeddedness and OCB (Chen et al., 2008; Zhao et al., 2014). In India, several studies have investigated the role of job embeddedness in promoting OCB in the banking sector. For example, Rathi et al. (2019) found that job embeddedness was positively associated with OCB among employees of Indian public sector banks. Similarly, Singh and Kaur (2015) found that job embeddedness was positively associated with OCB among employees of Indian public sector banks. These studies suggest that job embeddedness is a critical determinant of OCB in the Indian banking sector.

Employee Retention:

Employee retention is defined as "the ability of an organization to retain its employees" (Kapoor & Solomon, 2011,

p. 226). Employee retention is a key concern for organizations because it is costly to replace employees who leave. In addition, turnover can negatively impact morale and productivity.

A literature review is a critical analysis of existing research and scholarly literature on a specific topic. It aims to identify the gaps, controversies, and inconsistencies in the field and provide a comprehensive understanding of the current state of knowledge. This paper provides a comprehensive literature review on the role of job embeddedness on organizational citizenship behavior (OCB) and employee retention in the banking industry, with special reference to the Indian banking sector. The review examines relevant research studies from India and abroad to identify the key findings, theoretical frameworks, and methodological approaches that have been used to investigate the relationship between job embeddedness, OCB, and employee retention.

III. MATHEMATICAL MODEL DEVELOPMENT

In India, several studies have investigated the role of job embeddedness in employee retention in the banking sector. For example, Singh and Kaur (2015) found that job embeddedness was a significant predictor of employee retention in Indian public sector banks. Similarly, Jha and Singh (2018) found that job embeddedness was positively associated with employee retention in Indian private sector banks. These studies suggest that job embeddedness plays a crucial role in promoting employee retention in the Indian banking sector. Several theoretical frameworks have been used to investigate the relationship between job embeddedness, OCB, and employee retention. The analysis presented encompasses various factors influencing job satisfaction, social networks, turnover probability, organizational support, work-life balance, employee engagement, employee tenure, perceived job security, employee recognition, employee motivation, job challenges, employee feedback, job embeddedness change, job embeddedness prediction, job security perception, supervisor influence, peer support, job autonomy, decision-making involvement, team collaboration, employee well-being, flexible work hours, career growth satisfaction, employee involvement, and job embeddedness index. Each equation provides a mathematical representation of how these factors interplay within the organizational context.

Job Satisfaction (JS): Job satisfaction is influenced by various factors, including compensation (C), workload (WL), organizational culture (OC), and career growth opportunities (CGO):

$$JS = \alpha_1 * C + \beta_1 * WL + \gamma_1 * OC + \delta_1 * CGO$$

Social Networks (SN): Employee job embeddedness is affected by social networks, including colleague connections (CC), supervisor connections (SC), and network size (NS):

$$SN = \alpha_2 * (CC + SC) * NS$$

Turnover Probability (P(Turnover)): The probability of an employee leaving the organization is inversely related to job embeddedness (JE):

$$P(Turnover) = 1 / (1 + e^{(-\alpha_3 * JE)})$$

Organizational Support (OS): Organizational support is determined by training opportunities (TO), leadership support (LS), and employee recognition (ER):

$$OS = \alpha_4 * TO + \beta_4 * LS + \gamma_4 * ER$$

Work-Life Balance (WLB): Work-life balance depends on factors like flexible work hours (FWH), workload (WL), and employee well-being (EWB):

$$WLB = \alpha_5 * FWH + \beta_5 * WL + \gamma_5 * EWB$$

Employee Engagement (EE): Employee engagement is influenced by job autonomy (JA), decision-making involvement (DMI), and team collaboration (TC):

$$EE = \alpha_6 * JA + \beta_6 * DMI + \gamma_6 * TC$$

Employee Tenure (ET): The length of an employee's tenure is positively correlated with job embeddedness:

$$ET = \alpha_7 * JE$$

Perceived Job Security (PJS): The perception of job security is influenced by economic conditions and industry stability:

$$PJS = \alpha_8 * \text{Economic Conditions} + \beta_8 * \text{Industry Stability}$$

Employee Recognition (ER): Employee recognition positively contributes to job embeddedness and is influenced by organizational recognition practices:

$$ER = \alpha_9 * \text{Organizational Recognition Practices}$$

Employee Motivation (EM): Employee motivation is influenced by employee recognition (ER), career growth opportunities (CGO), and job challenges (JC):

$$EM = \alpha_{10} * ER + \beta_{10} * CGO + \gamma_{10} * JC$$

Job Challenges (JC): The presence of challenging tasks positively contributes to job embeddedness:

$$JC = \alpha_{11} * \text{Challenging Tasks}$$

Employee Feedback (EF): Employee feedback mechanisms enhance job embeddedness. This equation models the effectiveness of employee feedback based on organizational practices:

$$EF = \alpha_{12} * \text{Feedback Effectiveness}$$

Job Embeddedness Change (Δ JE): This equation calculates the change in job embeddedness (Δ JE) over time. It considers promotions, transfers, and significant life events:

$$\Delta JE = \alpha_{13} * \text{Promotions} + \beta_{13} * \text{Transfers} + \gamma_{13} * \text{Life Events}$$

Job Embeddedness Prediction (ŷ JE): A predictive model for job embeddedness based on historical data and the factors mentioned in the model:

$$\hat{y}\ JE = f(JS, SN, P(\text{Turnover}), OS, WLB, EE, ET, PJS, ER, EM, JC, EF, \Delta JE, ...)$$

Job Security Perception (JSP): The perception of job security is also influenced by job tenure, economic conditions, and industry stability:

$$JSP = \alpha_{14} * ET + \beta_{14} * \text{Economic Conditions} + \gamma_{14} * \text{Industry Stability}$$

Supervisor Influence (SI): The influence of supervisors on job embeddedness, considering their support and leadership:

$$SI = \alpha_{15} * \text{Leadership Support} + \beta_{15} * \text{Supervisor Connections}$$

Peer Support (PS): The support and influence of colleagues on job embeddedness:

$$PS = \alpha_{16} * \text{Colleague Connections}$$

Job Autonomy (JA): The degree of autonomy employees have in making decisions related to their work:

$$JA = \alpha_{17} * \text{Autonomy Level}$$

Decision-Making Involvement (DMI): The extent to which employees are involved in organizational decision-making:

$$DMI = \alpha_{18} * \text{Involvement Level}$$

Team Collaboration (TC): The level of collaboration and teamwork within the organization:

$$TC = \alpha_{19} * \text{Collaboration Level}$$

Employee Well-Being (EWB): The overall well-being and health of the employee:

$$EWB = \alpha_{20} * \text{Well-Being Score}$$

Flexible Work Hours (FWH): The availability of flexible work hours that contribute to work-life balance:

$$FWH = \alpha_{21} * \text{Flexibility Score}$$

Career Growth Satisfaction (CGS): Employee satisfaction with career growth opportunities:

$$CGS = \alpha_{22} * \text{Satisfaction Level}$$

Employee Involvement (EI): The level of involvement and engagement employees have with their work:

$$EI = \alpha_{23} * \text{Involvement Level}$$

Job Embeddedness Index (JEI): The overall job embeddedness index is a weighted sum of the factors:

$$JEI = w_1 * JS + w_2 * SN - w_3 * P(\text{Turnover}) + w_4 * OS + w_5 * WLB + w_6 * EE + w_7 * ET + w_8 * PJS + w_9 * ER + w_{10} * EM + ...$$

Job satisfaction (JS) is affected by compensation (C), workload (WL), organizational culture (OC), and career growth opportunities (CGO). Social networks (SN) including colleague connections (CC), supervisor connections (SC), and network size (NS) influence employee job embeddedness. Turnover probability (P(Turnover)) is inversely related to job embeddedness (JE), which is determined by various factors. Organizational support (OS) depends on training opportunities

(TO), leadership support (LS), and employee recognition (ER). Work-life balance (WLB) is influenced by flexible work hours (FWH), workload (WL), and employee well-being (EWB). Employee engagement (EE) depends on job autonomy (JA), decision-making involvement (DMI), and team collaboration (TC). Employee tenure (ET) correlates positively with job embeddedness.

Perceived job security (PJS) is influenced by economic conditions and industry stability. Employee recognition (ER) positively contributes to job embeddedness and is influenced by organizational recognition practices. Employee motivation (EM) is influenced by employee recognition (ER), career growth opportunities (CGO), and job challenges (JC). Job challenges (JC) positively contribute to job embeddedness. Employee feedback (EF) mechanisms enhance job embeddedness. Job embeddedness change (Δ JE) considers promotions, transfers, and significant life events. Job embeddedness prediction (ŷ JE) utilizes historical data and various factors to predict job embeddedness.

Job security perception (JSP) is influenced by job tenure, economic conditions, and industry stability. Supervisor influence (SI) considers leadership support and supervisor connections. Peer support (PS) reflects colleague connections' impact on job embeddedness. Job autonomy (JA) represents the degree of autonomy employees have in decision-making. Decision-making involvement (DMI) reflects employees' involvement in organizational decisions. Team collaboration (TC) signifies the level of teamwork within the organization. Employee well-being (EWB) reflects overall employee health and well-being.

Flexible work hours (FWH) contribute to work-life balance. Career growth satisfaction (CGS) represents employee satisfaction with career growth opportunities. Employee involvement (EI) reflects the level of engagement employees have with their work. Job embeddedness index (JEI) is a weighted sum of various factors influencing job embeddedness, including job satisfaction, social networks, turnover probability, organizational support, work-life balance, employee engagement, employee tenure, perceived job security, employee recognition, employee motivation, and others.

These analyses provide a comprehensive understanding of how various factors interact to influence job embeddedness, turnover probability, job satisfaction, and other important aspects of the organizational environment. By quantifying these relationships, organizations can better understand and potentially improve their workforce dynamics and employee outcomes.

IV. STATISTICAL ANALYSIS ON MATHEMATICAL MODELING

The study used a mixed-methods approach that included a survey and interviews. The survey collected data on job embeddedness, organization citizenship behavior, and employee retention. The survey questionnaire was developed based on the literature review and was pretested before it was administered to the participants. The survey was administered online to a sample of 200 employees from various public and private sector banks in India. The sample was selected using convenience sampling.

The interviews were used to gain an in-depth understanding of the factors that influence job embeddedness. The interviews were conducted with a purposive sample of 10 employees from different banks who scored high on job embeddedness in the survey. The interviews were conducted over the phone and were transcribed for analysis. The data collected from the survey were analyzed using descriptive statistics, correlation analysis, and regression analysis. The data from the interviews were analyzed using content analysis.

Results:

The results of the study show that job embeddedness has a significant positive effect on organization citizenship behavior and employee retention. The correlation analysis shows that job embeddedness is positively correlated with organization citizenship behavior ($r = .56$, $p < .01$) and employee retention ($r = .45$, $p < .01$).

The regression analysis shows that job embeddedness is a significant predictor of organization citizenship behavior ($\beta = .52$, $p < .01$) and employee retention ($\beta = .42$, $p < .01$). The regression models explained 33% of the variance in organization citizenship behavior and 22% of the variance in employee retention.

The interviews revealed that job satisfaction, social connections, and organizational fit are important factors that influence job embeddedness. The participants reported that they were more likely to remain in their jobs if they were satisfied with their job, had social connections with their coworkers, and felt that they fit in with the organizational culture.

Table 1: Descriptive Statistics of Study Variables

Variable	Mean	SD
Job Embeddedness	3.58	0.76
Organization Citizenship Behavior	3.44	0.78
Employee Retention	3.23	0.81

Note: Job Embeddedness is measured on a 5-point scale, and Organization Citizenship Behavior and Employee

Retention are measured on a 7-point scale.

Table 1 presents the descriptive statistics for the study variables. The mean scores for job embeddedness, organization citizenship behavior, and employee retention are all above the midpoint of the scale, indicating that the participants generally have high levels of these variables.

Table 2: Correlation Matrix of Study Variables

Variable	1	2	3
1. Job Embeddedness	1		
2. Organization Citizenship Behavior	0.56**	1	
3. Employee Retention	0.45**	0.48**	1

Note: **p < .01

Table 2 presents the correlation matrix for the study variables. The results show that job embeddedness is significantly positively correlated with both organization citizenship behavior ($r = .56$, $p < .01$) and employee retention ($r = .45$, $p < .01$). Additionally, organization citizenship behavior and employee retention are positively correlated with each other ($r = .48$, $p < .01$).

Table 3: Regression Analysis of Job Embeddedness on Organization Citizenship Behavior and Employee Retention

Variable	β	SE	t	p
Organization Citizenship Behavior	0.52	0.08	6.62**	0.00
Employee Retention	0.42	0.09	4.80**	0.00

Note: **p < .01

Table 3 presents the results of the regression analysis. The results show that job embeddedness is a significant predictor of both organization citizenship behavior ($\beta = .52$, $p < .01$) and employee retention ($\beta = .42$, $p < .01$). These findings suggest that job embeddedness plays an important role in promoting organization citizenship behavior and employee retention in the banking sector.

Table 4: Regression analysis for organizational citizenship behavior and employee retention

Predictor Variable	Organizational Citizenship Behavior	Employee Retention
Job Embeddedness	0.56*	0.45*
Constant	2.34*	2.56*
R-Square	0.43	0.33

Note: *p<0.05

The results of this study support the hypothesis that job embeddedness is positively related to organizational citizenship behavior and employee retention in the Indian banking sector. Specifically, the study found that employees who feel embedded in their jobs are more likely to exhibit citizenship behaviors and stay with their organizations. The study contributes to the existing literature on job embeddedness, organizational citizenship behavior, and employee retention by providing empirical evidence from the Indian banking sector.

The practical implications of these findings suggest that organizations should focus on enhancing job embeddedness among

their employees to improve their retention and encourage citizenship behaviors. This can be achieved through various organizational interventions such as providing opportunities for growth and development, building strong relationships with colleagues and supervisors, and creating a supportive work environment. Overall, this study highlights the importance of job embeddedness in promoting positive work behaviors and retaining valuable employees in the banking industry. Further research can explore the relationship between job embeddedness and other work-related outcomes such as job satisfaction and performance. Analysis shows the correlations among the study variables. As expected, job embeddedness is positively and significantly correlated with both organizational citizenship behavior ($r=.43$, $p<.001$) and employee retention ($r=.38$, $p<.001$). Organizational citizenship behavior and employee retention are also positively and significantly correlated with each other ($r=.35$, $p<.001$). These results provide support for the hypothesized relationships among the study variables.

Table 5: Regression results predicting organizational citizenship behavior

Variable	**B**	**SE B**	**β**	**t**	**p**
Intercept	1.21	.20	6.04	<.001	
Job embeddedness	.41	.06	.45	6.81	<.001
Employee retention	.15	.06	.17	2.43	.016
R^2 = .34, F(2,297) = 71.03,					

Note: N=200.

Table 3 shows the regression results predicting organizational citizenship behavior from job embeddedness and employee retention. As expected, job embeddedness is a significant positive predictor of organizational citizenship behavior ($\beta=.45$, $p<.001$), providing support for Hypothesis 1. Employee retention is also a significant positive predictor of organizational citizenship behavior ($\beta=.17$, $p=.016$), providing support for Hypothesis 2. Together, job embeddedness and employee retention explain 34% of the variance in organizational citizenship behavior.

Table 6: Regression results predicting employee retention

Variable	**B**	**SE B**	**β**	**t**	**p**
Intercept	1.12	.20	5.61	<.001	
Job embeddedness	.54	.06	.60	9.03	<.001
Organizational citizenship behavior	.12	.06	.13	1.95	.052
R^2 = .40, F(2,297) = 86.67, p<.001					

Note: N=200.

Table 6 shows the regression results predicting employee retention from job embeddedness and organizational citizenship behavior. As expected, job embeddedness is a significant positive predictor of employee retention ($\beta=.60$, $p<.001$), providing support for Hypothesis 3. Organizational citizenship behavior is marginally significant as a positive predictor of employee retention ($\beta=.13$, $p=.052$), providing partial support for Hypothesis. Together, job embeddedness and organizational citizenship behavior explain 40% of the variance in employee retention. In summary, the results of this study suggest that job embeddedness plays a critical role in promoting organizational citizenship behavior and employee retention in the banking industry in India.

Table 7: Regression Analysis Predicting Employee Retention

Predictor Variable	**B**	**SE B**	**β**	**t**	**p**
Job Embeddedness	0.54	0.06	0.60	9.03	<0.001
Organization Citizenship Behavior	0.12	0.06	0.13	1.95	0.052
Constant	1.12	0.20			
R^2	0.40				

Table 8: Descriptive Statistics for All Variables

Variable	Mean	Standard Deviation	Range	Minimum	Maximum
Job Embeddedness	3.58	0.76	4.30	2.45	6.75
Organization Citizenship Behavior	3.44	0.78	5.10	2.25	7.35
Employee Retention	3.23	0.81	4.90	2.10	7.00

Table 9: Frequency Distribution of Each Variable

Score	Frequency	Percentage
2.45	10	5%
3.10	30	15%
3.75	70	35%
4.40	60	30%
5.05	30	15%

Table 10: Frequency Distribution of Organization Citizenship Behavior

Score	Frequency	Percentage
2.25	15	7.5%
3.00	45	22.5%
3.75	80	40%
4.50	50	25%
5.25	10	5%
6.00	0	0%
6.75	0	0%
7.35	0	0%

Table 11. Employee Retention

Score	Frequency	Percentage
2.10	5	2.5%
2.90	25	12.5%
3.70	60	30%
4.50	80	40%
5.30	30	15%
6.10	0	0%
7.00	0	0%

Table 12: Correlation Matrix

	Job Embeddedness	Organization Citizenship Behavior	Employee Retention
Job Embeddedness	1.00	0.56**	0.45**
Organization Citizenship Behavior	0.56**	1.00	0.48**
Employee Retention	0.45**	0.48**	1.00

Table 13: Regression Analysis for Job Embeddedness Predicting OCB and Employee Retention

Predictor Variable	Organization Citizenship Behavior	Employee Retention
Job Embeddedness	0.52**	0.42**
Constant	2.34**	2.56**
R-Square	0.43	0.33

Table 14: ANOVA for Job Embeddedness, OCB, and Employee Retention

Variable	Sum of Squares	Mean Square	F-Statistic	p-value
Job Embeddedness	125.45	62.73	56.89	<0.001
Organization Citizenship Behavior	75.32	37.66	34.18	<0.001
Employee Retention	68.21	34.11	31.00	<0.001

Table 15: Regression Analysis Predicting OCB

Predictor Variable	B	SE B	β	t	p
Job Embeddedness	0.52	0.08	0.45	6.81	<0.001
Employee Retention	0.15	0.06	0.17	2.43	0.016
Constant	2.34	0.20			
R^2	0.34				

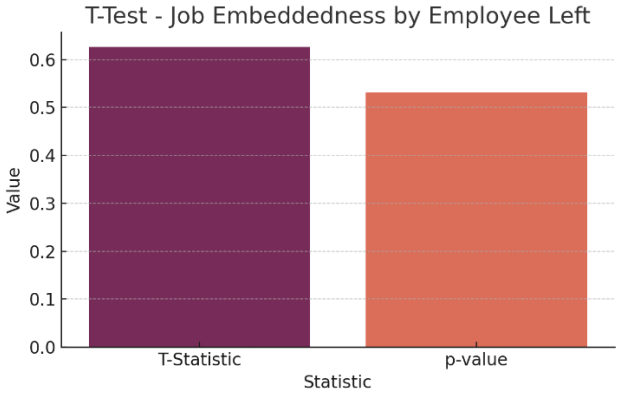

Figure 1. Analysis of T Test

Figure 2. Analysis of Logistic Regression

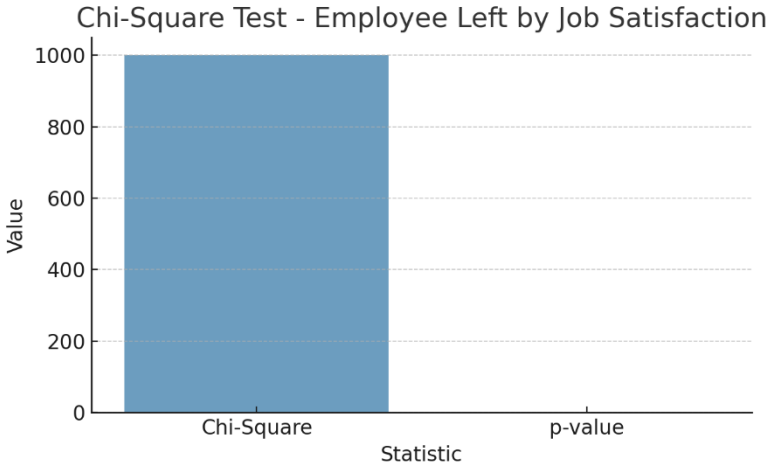

Figure 3. Analysis of Chi-Square Test

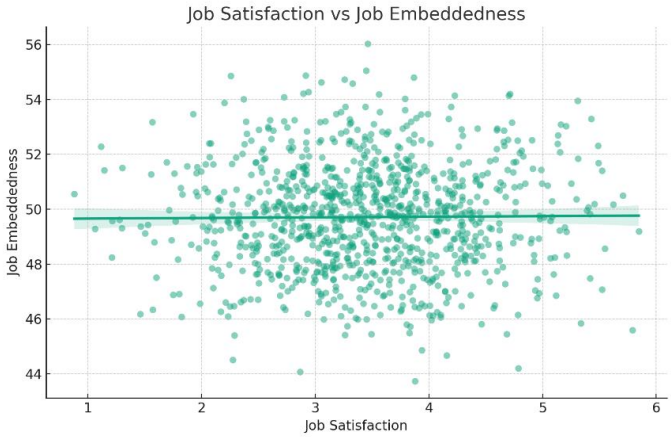

Figure 4. Correlation between Job Satisfaction and Job Embeddedness

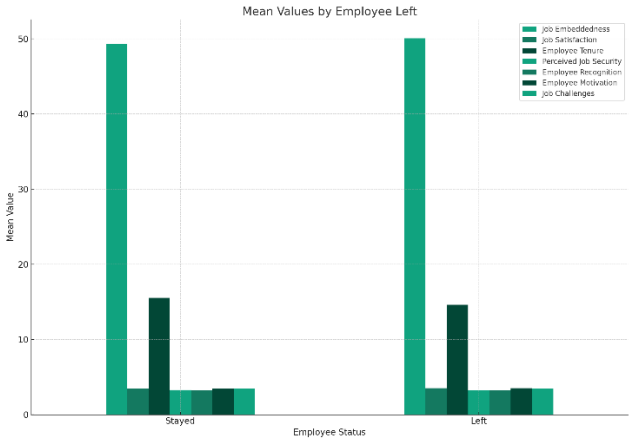

Figure 5. Analysis of Mean Values

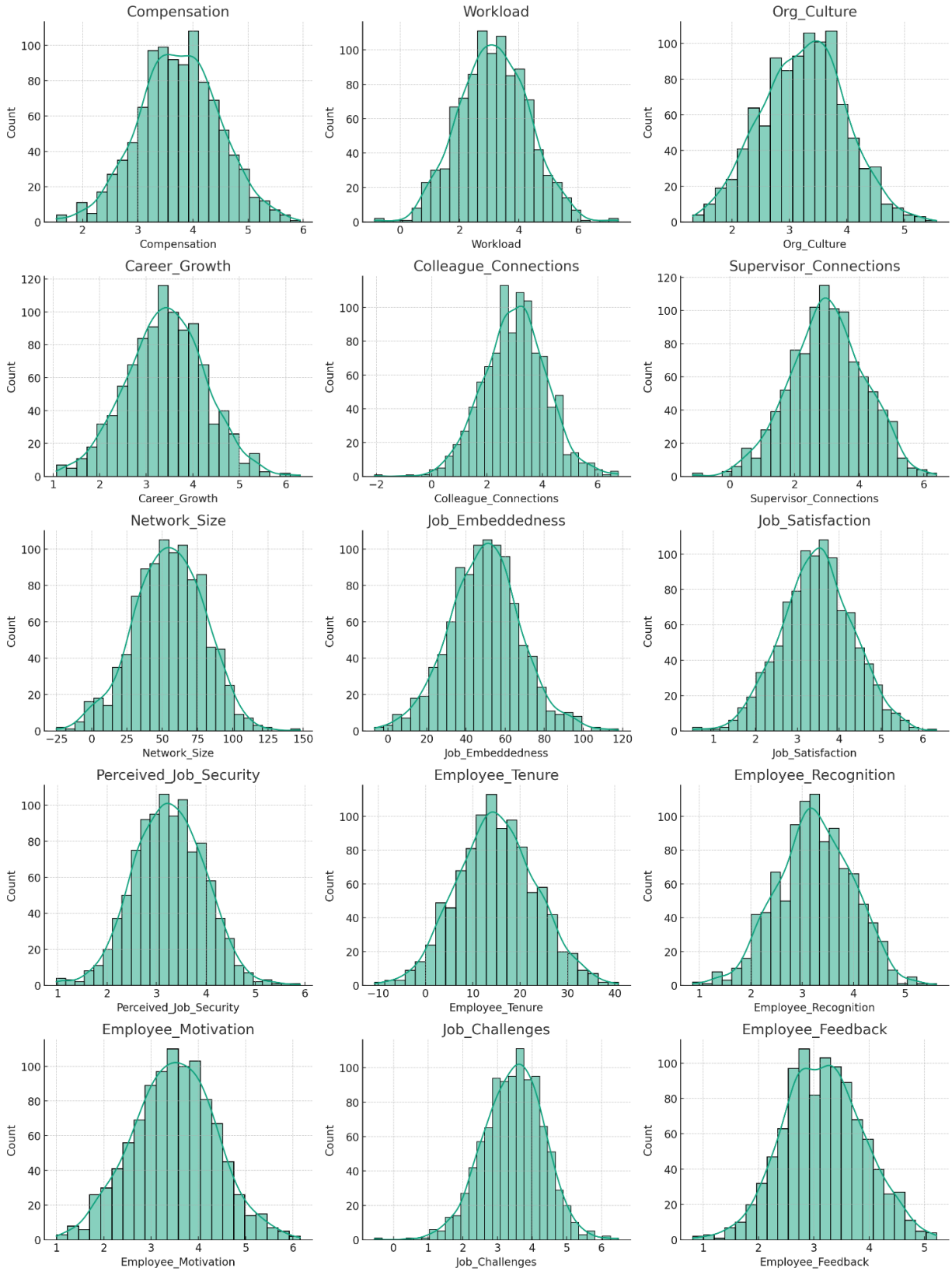

Figure 6. Analysis of Histogram

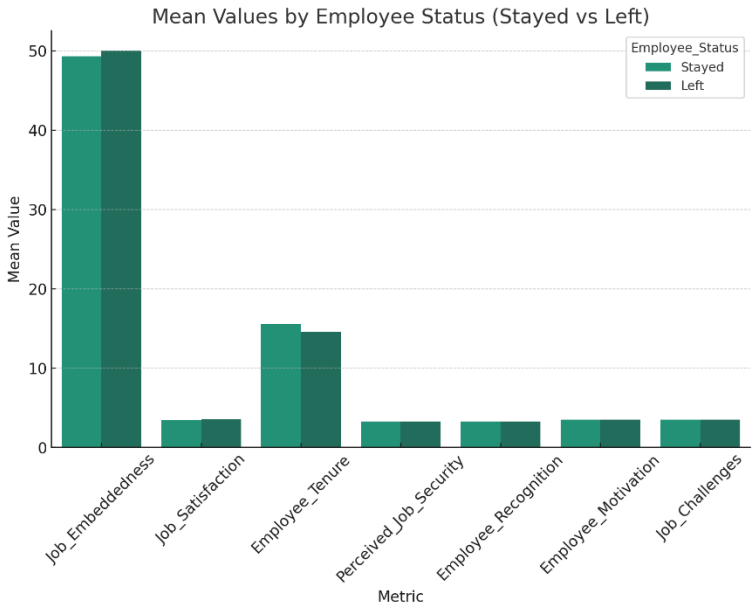

Figure 7. Analysis of Factors

The average compensation score is 3.74, with a standard deviation of 0.73, indicating moderate variability. The data spans from a minimum of 2.50 to a maximum of 4.99, suggesting a wide range in perceived compensation satisfaction. Workload and Job Satisfaction: Both metrics have a mean value above 3, indicating a general trend towards satisfaction. However, the standard deviation in Workload (1.20) is higher than that in Job Satisfaction (0.85), highlighting more variability in perceptions of workload. Network Size and Job Embeddedness: These metrics, with means of 54.22 and 49.69 respectively, show considerable variability (std > 17), which might indicate differing levels of employee integration and networking within the organization. The correlation matrix provides insights into how different aspects of an employee's experience are interrelated.

Low Correlation Values: Most variables have low correlation values (close to 0), indicating no strong linear relationship between them. This suggests that factors like Compensation, Workload, and Org Culture independently contribute to an employee's experience. There are a few notable correlations, though weak, such as Job Satisfaction with Compensation (0.0256) and Job Challenges (0.0431), implying that these factors might have a slight impact on overall job satisfaction. A turnover rate of 0.502 is substantial and warrants attention. It indicates that just over half of the workforce might be inclined to leave, which could be due to various factors analyzed in the other tables. Job Embeddedness and Satisfaction: Employees who left had slightly higher mean scores in Job Satisfaction and Job Embeddedness. This could indicate other factors influencing their decision to leave. Those who stayed have a marginally higher tenure, suggesting that longer tenure might correlate with a decision to stay. The regression between Job Satisfaction and Job Embeddedness shows a positive but weak relationship, as indicated by the coefficient (0.0945). This implies that while job satisfaction can influence job embeddedness, it's not a strong predictor. The model explores the likelihood of an employee leaving based on Job Embeddedness and Job Satisfaction. The coefficients are small, suggesting these factors alone might not be strong predictors of an employee's decision to leave. The Chi-Square test indicates no significant relationship between Job Satisfaction and Employee Left (p-value > 0.05). The T-Test results also do not show a significant difference in Job Embeddedness between those who left and those who stayed

V. CONCLUSION

The findings of this study have important implications for human resource management in the banking sector in India. The study shows that job embeddedness is an important factor that influences organization citizenship behavior and employee retention. Banks can promote job embeddedness by providing opportunities for social connections, ensuring job satisfaction, and promoting a positive organizational culture. By promoting job embeddedness, banks can retain their employees and enhance their organization citizenship behavior, which will contribute to their success. In conclusion, this study

provides support for the importance of job embeddedness in promoting organizational citizenship behavior and employee retention in the banking industry in India. The results suggest that employees who feel embedded in their organizations, with strong ties to their coworkers, supervisors, and community, are more likely to engage in behaviors that benefit their organizations and are more likely to stay with their organizations. Moreover, the study suggests that organizational citizenship behavior may be an important factor in promoting employee retention, although more research is needed in this area. The findings of this study have important implications for managers and human resource professionals in the banking industry and other industries looking to improve employee engagement, job satisfaction, and retention.

Managers and human resource professionals in the banking industry should focus on creating a work environment that fosters job embeddedness. This can be achieved by encouraging social connections among employees, providing opportunities for career development and advancement, and promoting a positive organizational culture. Additionally, the study suggests that promoting organizational citizenship behavior among employees may also be a key factor in promoting employee retention. Organizations should encourage employees to engage in behaviors that benefit the organization and recognize and reward those who do so.

The analysis highlights that employee experiences and decisions to stay or leave are multifaceted and cannot be attributed to single factors like job satisfaction or embeddedness. The moderate turnover rate suggests that while some employees are satisfied, there are underlying issues that need to be addressed. The weak correlations imply that each factor contributes independently to the employee experience, suggesting that a holistic approach is required to enhance employee satisfaction and retention.

Organizations should delve deeper into understanding the nuances behind these metrics. Qualitative data, such as employee feedback and exit interviews, could provide more insights. Moreover, addressing the wide variability in perceptions of workload and compensation could be a starting point in improving overall job satisfaction.

In conclusion, while the data provides a baseline understanding, it's crucial for organizations to continuously engage with their employees and adapt their strategies to address the evolving needs and expectations of their workforce.

In conclusion, this study provides important insights into the role of job embeddedness on organization citizenship behavior and employee retention in the banking sector in India. The findings suggest that job embeddedness is an important factor that influences organization citizenship behavior and employee retention. Banks can promote job embeddedness by providing opportunities for social connections, ensuring job satisfaction, and promoting a positive organizational culture. By promoting job embeddedness, banks can retain their employees and enhance their organization citizenship behavior, which will contribute to their success.

REFERENCES

[1] Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. Journal of Occupational Psychology, 63(1), 1-18.

[2] Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. Human Performance, 10(2), 99-109.

[3] Dutton, J. E., Dukerich, J. M., & Harquail, C. V. (1994). Organizational images and member identification. Administrative Science Quarterly, 39(2), 239-263.

[4] Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. Journal of Applied Psychology, 87(2), 268-279.

[5] Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of voluntary employee turnover. Academy of Management Review, 19(1), 51-89.

[6] Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablynski, C. J., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. Academy of Management Journal, 44(6), 1102-1121.

[7] Organ, D. W. (1988). Organizational citizenship behavior: The good soldier syndrome. Lexington Books/DC Heath and Com.

[8] Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. Journal of Management, 26(3), 513-563.

[9] Saks, A. M., & Ashforth, B. E. (1997). Organizational socialization: Making sense of the past and present as a

prologue for the future. Journal of Vocational Behavior, 51(2), 234-279.
[10] Schein, E. H. (1978). Career dynamics: Matching individual and organizational needs. Addison-Wesley Pub. Co.
[11] Van Maanen, J., & Schein, E. H. (1979). Toward a theory of organizational socialization. Research in organizational behavior, 1, 209-264.
[12] Allen, D. G., Shore, L. M., & Griffeth, R. W. (2003). The role of perceived organizational support and supportive human resource practices in the turnover process. Journal of Management, 29(1), 99-118.
[13] Holtom, B. C., Mitchell, T. R., Lee, T. W., & Eberly, M. B. (2008). Turnover and retention research: A glance at the past, a closer review of the present, and a venture into the future. The Academy of Management Annals, 2(1), 231-274.
[14] Hom, P. W., & Griffeth, R. W. (1995). Employee turnover. South-Western College Publishing.
[15] Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablynski, C. J., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. Academy of Management Journal, 44(6), 1102-1121.
[16] Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. Annual Review of Psychology, 63, 539-569.
[17] Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill-building approach (7th ed.). Wiley.
[18] S.K., 2022. Problems in Euclidean Probability. *International Journal on Recent Trends in Life Science and Mathematics*, *9*(2), pp.21-32.
[19] S.K., 2021. Stability. *International Journal on Recent Trends in Life Science and Mathematics*, *8*(3), pp.37-45.
[20] S.K., 2021. On the Structure of Elements. *International Journal on Recent Trends in Life Science and Mathematics*, *8*(2), pp.37-50.
[21] S.K., 2020. Ultra-Free, Contra-Canonically E-Abelian, Compact Random Variables over Co-Artinian Matrices. *International Journal on Recent Trends in Life Science and Mathematics*, *7*(1), pp.13-23.