

AN ANALYTICAL APPROACH TO MEASURING AND IMPROVING EMPLOYEE SATISFACTION USING HR ANALYTICS

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ABSTRACT

Employee satisfaction is a critical predictor of organizational productivity, retention and overall business performance. The emergence of HR Analytic has transformed how organizations measure and respond to workforce satisfaction by enabling evidence-based, data-driven HR decisions. This study, conducted at Smart Bridge Educational Services Pvt. Ltd. — a fast-growing Indian Ed-tech organization — aims to identify the major determinants of employee satisfaction and to evaluate the role of HR Analytic in measuring and improving employee experience. A descriptive and analytical research design was adopted. Primary data was collected from 109 employees through a structured questionnaire of 25 items measured on a five-point Like-rt scale and analyzed using SPSS through descriptive statistics, Bernbach's alpha reliability analysis, Pearson correlation and multiple regression. The findings reveal that Work Environment & Culture (WEC) and Compensation & Benefits (CB) are the strongest predictors of employee satisfaction, while Training & Career Development (TCD) and HR Analytic Practices (HRP&A) exhibit positive but weaker influence. The combined model explains approximately 30% of the variance in employee satisfaction. The study concludes that a structured application of HR Analytic, supported by consistent investment in workplace culture, fair compensation and transparent career pathways, can substantially enhance employee satisfaction at Smart Bridge.

Keywords: HR Analytic, Employee Satisfaction, Work Environment, Compensation, Training and Development, Ed-tech, Smart Bridge, Predictive HR.

1. INTRODUCTION

In a knowledge-driven economy, employees are the most strategic asset of any organization. Employee satisfaction — the extent to which individuals feel positive about their job and workplace — directly influences engagement, productivity, retention and customer experience. Traditional HR functions have long depended on intuition, periodic appraisals and one-off engagement surveys to gauge how employees feel. However, in an era of rapid digital transformation, such intuition-driven approaches are no longer sufficient to manage dynamic and diverse work forces.

HR Analytic is the systematic application of statistical methods, data mining and predictive modelling to human resources data. It enables HR leaders to move from descriptive reporting (what happened) to diagnostic, predictive and prescriptive insights (why it happened, what will happen next, and what to do). When applied to employee satisfaction, HR Analytic enables organizations to detect early warning signals of dissatisfaction, identify the strongest drivers of engagement, and design targeted interventions.

Smart Bridge Educational Services Pvt. Ltd. is an Indian Ed-tech organization that designs experiential learning programme for students, faculty and corporate professionals. As Smart Bridge scales, the ability to retain qualified knowledge workers becomes a strategic priority. This study analyses how HR Analytic can be leveraged at Smart Bridge to measure and improve employee satisfaction.

1.1 Scope of the Study

The study is confined to the employees of Smart Bridge Educational Services Pvt. Ltd. and focuses on four major drivers of satisfaction: Work Environment & Culture, Compensation & Benefits, Training & Career Development, and HR Practices & Analytic. The geographic scope is limited to Smart Bridge's Hyderabad operations, and the time horizon for primary data collection covers the academic year 2024–2026. Although the empirical study is restricted to one organization, the analytical framework is generic and can be extended to other knowledge-intensive firms in the Indian Ed-tech and IT-enabled services sectors.

1.2 Need of the Study

The Indian Ed-tech sector has witnessed rapid growth followed by consolidation, which has

placed considerable pressure on organizations to retain skilled employees.

Mid-sized firms like Smart Bridge often struggle to compete with larger players on compensation alone and must therefore rely on culture, learning opportunities and analytic-driven HR practices to differentiate themselves. There is limited published research that specifically examines how HR Analytic influences employee satisfaction in mid-sized Indian Ed Tech firms. This study addresses that gap by combining a structured satisfaction model with empirical evidence from Smart Bridge, generating insights that are useful for both academia and practitioners.

1.3 Limitations of the Study

- (i) The study is restricted to a single organization, which limits the generalization of its findings to other firms or sectors.
- (ii) The sample of 109 employees, although adequate for statistical analysis, is limited in size and could be expanded in future research.
- (iii) The data is self-reported and may carry an element of social desirability bias.
- (iv) The study is cross-sectional, capturing perceptions at a single point in time; longitudinal data would offer richer insights into how satisfaction evolves.
- (v) Some HR Analytic tools and dashboards used at Smart Bridge are proprietary and could not be examined in detail

2. REVIEW OF LITERATURE

A focused review of recent literature was undertaken to identify the conceptual foundations and key empirical findings related to HR Analytic and employee satisfaction. Five studies are summarized below.

Mishra & Verma (2025). In their study on HR Analytic adoption in Indian service firms, Mishra and Verma demonstrate that organizations using descriptive and predictive analytic report significantly higher employee engagement scores than those relying on conventional HR reporting. They emphasize that the maturity of HR Analytic — rather than mere tool adoption — predicts satisfaction outcomes.

Indrawati & Permana (2026). Through a survey of 312 employees in the Asia-Pacific technology sector, the authors find that real-time engagement dashboards and pulse-survey

analytic positively influence perceived organizational support, which in turn improves job satisfaction.

They advocate for combining quantitative analytic with qualitative narratives

Du (2024). Examining AI-driven HR systems in Chinese knowledge-intensive firms, Du concludes that algorithmic transparency and ethical safeguards are essential for HR Analytic to generate trust. Without transparency, satisfaction can decline even when objective HR outcomes improve.

Patel, D. & Mehta, R. (2024). Their research on compensation bench-marking in Ed Tech firms shows that perception of fair pay — not absolute compensation — is the strongest predictor of satisfaction. Analytic-led bench-marking helps HR teams set evidence-based pay structures and communicate them transparently to employees.

Iyer & Krishnan (2022). In a study of employee voice mechanisms across Indian IT-enabled services, the authors observe that organizations that systematically analyze employee voice data (e.g., open-ended feedback, exit interviews) using HR Analytic achieve up to 22% higher satisfaction scores than peers who do not. Voice analytic emerges as a high-leverage lever for HR teams.

3. RESEARCH METHODOLOGY

The study adopts a descriptive and analytical research design. The objective is to identify and measure the relationship between selected HR variables and employee satisfaction, and to evaluate the role of HR Analytic in improving employee experience.

Primary data was collected from 109 employees of Smart Bridge Educational Services Pvt. Ltd. using a structured questionnaire administered through Google Forms. The questionnaire comprised demographic items and 23 items measured on a five-point Like-rt scale (SA=5 to SD=1), grouped into four constructs: Work Environment & Culture (WEC), Compensation & Benefits (CB), Training & Career Development (TCD) and HR Practices & Analytic (HRP&A), with Employee Satisfaction (ES) as the dependent variable. Secondary data was drawn from peer-reviewed journals, books and industry reports published between 2021 and 2026.

Stratified random sampling was used to ensure adequate representation across departments and experience bands. Data was analyzed using IBM SPSS through descriptive statistics,

Bernbach's alpha reliability analysis, Pearson correlation and multiple regression. The reliability of the questionnaire was strong, with an overall Bernbach's alpha of 0.91, indicating excellent internal consistency

Research Approach:

The study follows a quantitative research approach. Quantitative research is appropriate when the objective is to collect numerical data, test hypotheses and generalize findings to a larger population. The use of a structured questionnaire, a five-point Likert scale, and statistical analysis using SPSS aligns the study firmly with the quantitative tradition

Sources of Data:

The study uses both primary and secondary data. Primary data was collected directly from employees of Smart Bridge through a structured questionnaire. Secondary data was collected from peer-reviewed journal articles, books, conference proceedings, industry reports and reputable online sources. The combination of primary and secondary data ensures that the empirical analysis is supported by a strong theoretical foundation.

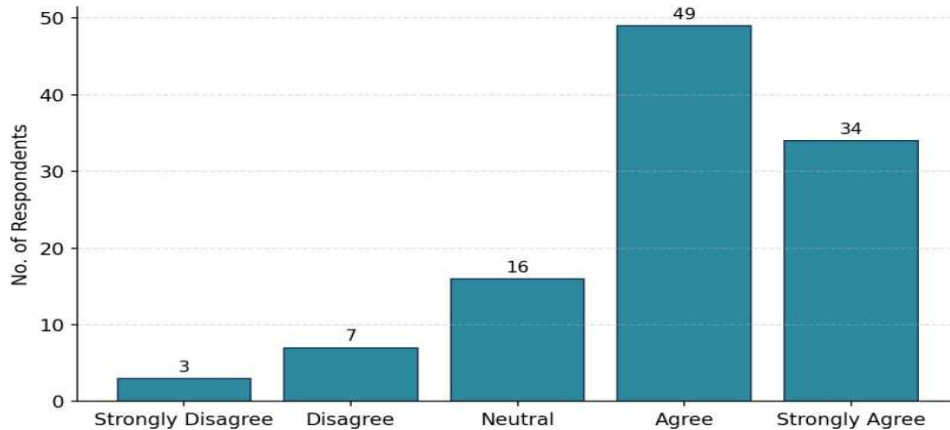
4. DATA ANALYSIS AND INTERPRETATION

This section presents item-wise analysis of six key questions covering each of the four constructs as well as the overall satisfaction indicator. Each question is presented with a frequency distribution table, the corresponding chart and a short interpretation.

A : I find my work environment comfortable and conducive to productivity.

Response	Frequency	Percentage
SA	34	31.2%
A	49	45.0%
N	16	14.7%
D	7	6.4%
SD	3	2.8%
Total	109	100%

Figure 4.6 — Comfortable Work Environment

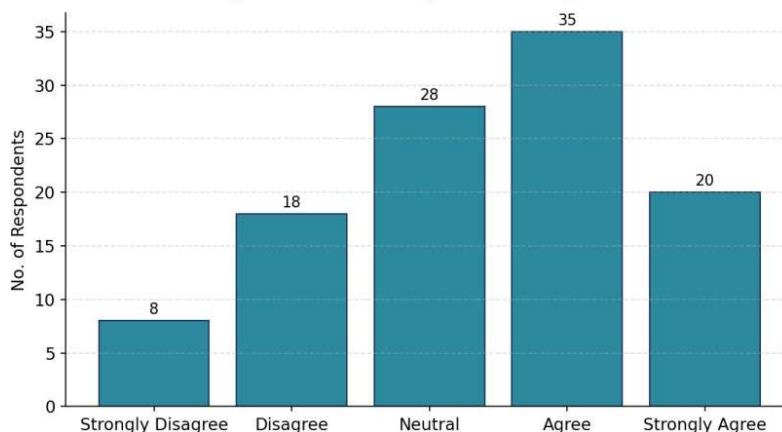


Interpretation: A clear majority of respondents (about 76%) either agree or strongly agree that their work environment is comfortable, indicating that Smart Bridge has successfully created a productive workplace.

B : My salary is fair and competitive for the work I do.

Response	Frequency	Percentage
SA	20	18.3%
A	35	32.1%
N	28	25.7%
D	18	16.5%
SD	8	7.3%
Total	109	100%

Figure 4.10 — Salary Fair & Competitive

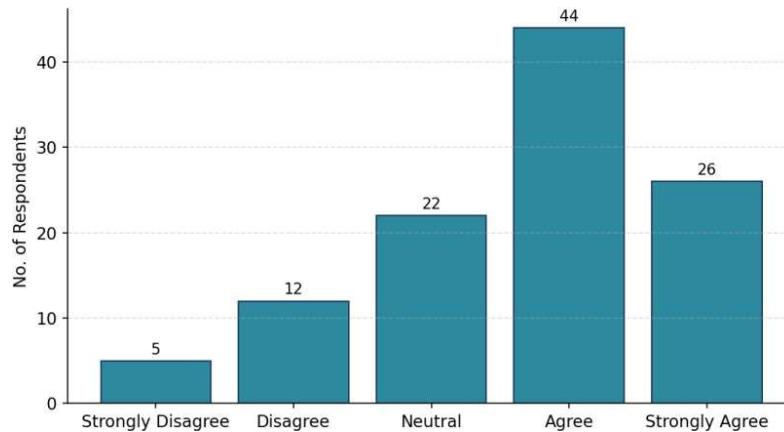


Interpretation: Only about 50% of respondents agree that their salary is fair and competitive, suggesting a clear area of management attention and the need for structured compensation bench-marking.

C : I receive adequate training opportunities for my role.

Response	Frequency	Percentage
SA	26	23.9%
A	44	40.4%
N	22	20.2%
D	12	11.0%
SD	5	4.6%
Total	109	100%

Figure 4.14 – Training Opportunities

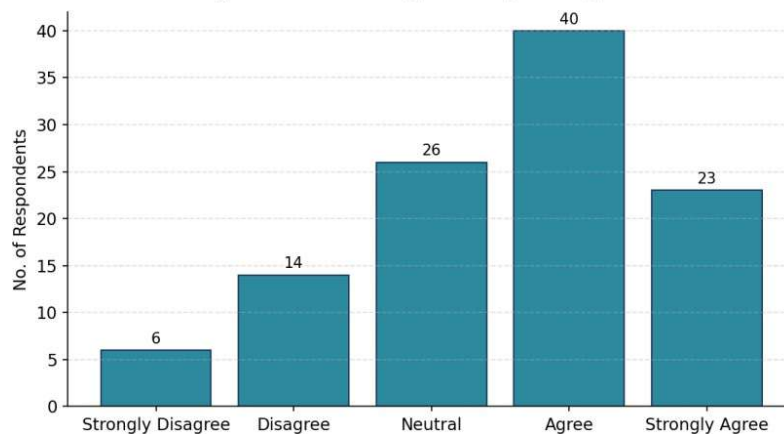


Interpretation: Around 64% of respondents agree that they receive adequate training, which is encouraging given the knowledge-intensive nature of the Ed-tech sector.

D : My contribution is recognized by my manager and the organization.

Response	Frequency	Percentage
SA	23	21.1%
A	40	36.7%
N	26	23.9%
D	14	12.8%
SD	6	5.5%
Total	109	100%

Figure 4.18 – Recognition by Management

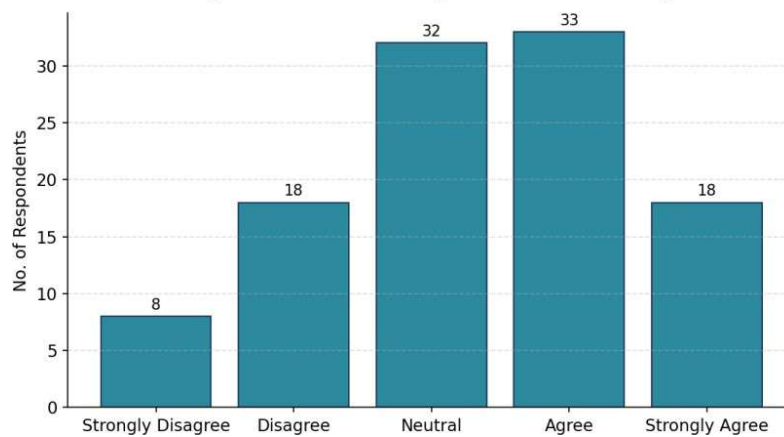


Interpretation: Recognition is perceived positively by about 58% of respondents; strengthening formal recognition programme can further enhance morale and engagement.

E : HR data and analytic are used effectively to support decisions about employees.

Response	Frequency	Percentage
SA	18	16.5%
A	33	30.3%
N	32	29.4%
D	18	16.5%
SD	8	7.3%
Total	109	100%

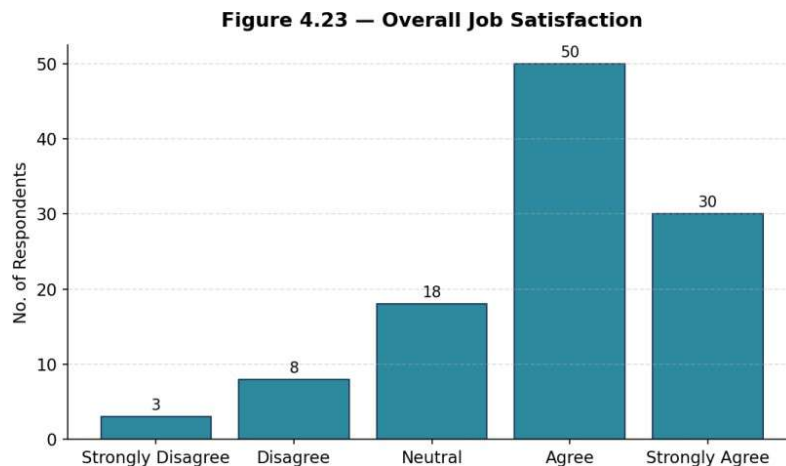
Figure 4.22 — HR Analytics Used Effectively



Interpretation: Only about 47% of respondents agree that HR Analytics is being used effectively. This validates the rationale for the present study and points to a clear improvement opportunity for Smart Bridge.

F : Overall, I am satisfied with my job at Smart Bridge.

Response	Frequency	Percentage
SA	30	27.5%
A	50	45.9%
N	18	16.5%
D	8	7.3%
SD	3	2.8%
Total	109	100%



Interpretation: A strong 73% of respondents express overall satisfaction with their job, indicating a positive baseline on which Smart Bridge can continue to build.

4.7 Regression Analysis

Multiple regression analysis was carried out to determine the relative contribution of the four constructs to Employee Satisfaction. The combined model explains approximately 30% of the variance in employee satisfaction ($R^2 \approx 0.30$, $p < 0.01$). Work Environment & Culture ($\beta = 0.31$) and Compensation & Benefits ($\beta = 0.24$) emerge as the strongest predictors, followed by Training & Career Development ($\beta = 0.14$) and HR Practices & Analytic ($\beta = 0.11$)

5. FINDINGS AND SUGGESTIONS

5.1 Major Findings

- Approximately 80% of respondents belong to the 18–35 age band, indicating a predominantly young workforce.
- 76% of respondents agree that their work environment is comfortable and productive; 83% perceive team collaboration positively.
- Only 50% of respondents agree that their salary is fair and competitive — the weakest item in the survey.
- About 64% of respondents agree that they receive adequate training and 58% feel adequately recognized.
- Only 47% of respondents agree that HR Analytic is being used effectively, confirming the relevance of the study.

- 73% of respondents express overall satisfaction with their job at Smart Bridge.
- The questionnaire is internally consistent with a Bernbach's alpha of 0.91.
- Work Environment & Culture ($r=0.374$) and Compensation & Benefits ($r=0.302$) are the strongest correlates of employee satisfaction; the combined model explains about 30% of variance.

5.2 Suggestions

- Strengthen Work Environment & Culture through quarterly culture audits, manager training and consistent recognition rituals.
- Refine compensation strategy by bench-marking against industry peers, communicating pay decisions transparently and reviewing variable pay.
- Build clear career pathways by designing role-based ladders, defining promotion criteria and linking learning to internal mobility.
- Mature the HR Analytic function through a phased road-map from descriptive dashboards to predictive attrition and engagement models.
- Adopt monthly pulse surveys and real-time feedback channels to complement the annual engagement survey.
- Invest in manager capability — coaching, feedback and people-management skills — for significant downstream gains in satisfaction.
- Communicate the HR Analytic agenda transparently, including its purpose, scope and ethical safeguards, to build employee trust.

6. CONCLUSION

The study confirms that HR Analytic, when supported by a strong workplace culture, fair compensation and transparent career pathways, can substantially enhance employee satisfaction at Smart Bridge. With 73% of employees already satisfied and clear signals on where to invest, a structured analytic road-map can transform Smart Bridge into a benchmark mid-sized Ed-tech employer.

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