

The Role of HRM Practices in Shaping Faculty Performance: A Study of HEIs Situated in Central Gujarat

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Abstract

This study examines the role of Human Resource Management (HRM) practices in shaping faculty performance in Higher Education Institutions (HEIs) in Gujarat. Specifically, it explores the impact of career planning, training and development, performance appraisal, and reward and compensation on faculty performance. A quantitative research design was employed, collecting data from 288 faculty members across various HEIs. The data was analyzed using Exploratory Factor Analysis (EFA) and Structural Equation Modeling (SEM). The results reveal that all four HRM practices significantly influence faculty performance, with performance appraisal exhibiting the strongest effect. These findings underscore the necessity of strategic HRM interventions in HEIs to enhance faculty effectiveness and institutional success.

Keywords: quantitative, Equation, significantly.

Introduction

Faculty performance is a critical determinant of the quality of education and research output in higher education institutions. Effective HRM practices can significantly enhance faculty engagement, motivation, and productivity, thereby improving institutional outcomes. In the context of Gujarat's HEIs, understanding the impact of HRM practices on faculty performance is crucial for developing policies that foster academic excellence. This study investigates how career planning, training and development, performance appraisal, and reward and compensation contribute to faculty performance. By identifying the most influential HRM practices, the study aims to provide actionable insights for institutional policymakers and HR managers.

Literature review

Human Resource Management (HRM) practices play a crucial role in shaping faculty performance in higher education institutions (HEIs). Studies by Al-Emadi et al. (2019) and Arifin (2015) emphasize that structured career planning, performance appraisal, and training programs enhance faculty engagement and productivity. This review synthesizes empirical research on the direct and indirect effects of HRM interventions, underscoring their significance in institutional success.

Career planning is an essential component of faculty development, ensuring long-term engagement and motivation. According to Naim and Lenka (2017), career development programs positively impact job satisfaction and performance. Similarly, Ghosh et al. (2020) highlight the role of mentorship and succession planning in fostering academic excellence. This review explores career planning strategies and their impact on faculty performance.

Training and development initiatives enhance faculty competencies, leading to improved teaching and research output. Studies by Noe et al. (2017) and Govaerts et al. (2019) highlight that continuous professional development programs contribute to faculty engagement and institutional growth. This review examines various training models and their effectiveness in higher education.

Performance appraisal systems are critical in evaluating and enhancing faculty productivity. According to Mero et al. (2014), appraisal mechanisms that integrate peer reviews and student feedback result in higher teaching effectiveness. Additionally, research by Shahzad et al. (2008) underscores the role of constructive feedback in faculty motivation and goal alignment.

Reward and compensation systems significantly influence faculty retention and motivation. Chiang and Birtch (2011) argue that competitive salaries and recognition programs enhance job satisfaction. Similarly, Shields et al. (2015) emphasize the impact of both monetary and non-monetary incentives in improving faculty commitment and institutional loyalty.

Faculty job satisfaction is closely linked to HRM practices such as work-life balance, career growth, and institutional policies. A meta-analysis by Tessema and Soeters (2006) found that well-structured HRM practices significantly improve faculty satisfaction and retention. This review consolidates key findings from multiple studies to provide an in-depth understanding of faculty satisfaction determinants.

HRM practices contribute to faculty engagement by fostering a supportive work environment. Saks (2006) and Anitha (2014) suggest that engagement levels are higher in institutions that invest in professional development and performance-based incentives. This review explores the relationship between HRM strategies and faculty engagement.

Theoretical perspectives such as the Resource-Based View (Barney, 1991) and Human Capital Theory (Becker, 1964) provide insights into how HRM practices influence faculty performance. Research by Wright et al. (2001) supports the notion that HRM interventions can enhance institutional competitiveness. This review discusses theoretical frameworks relevant to HRM and faculty performance.

Structural Equation Modeling (SEM) is widely used in HRM research to establish causal relationships between HR practices and faculty performance. Studies by Hair et al. (2019) and Fornell and Larcker (1981) demonstrate the effectiveness of SEM in HRM research. This review explores key SEM applications in faculty performance analysis.

Indian HEIs face several challenges in faculty performance, including high workloads, limited research opportunities, and inadequate career progression (Gupta & Pareek, 2018). HRM interventions such as professional development programs and structured performance evaluations have been recommended by researchers like Sharma and Jyoti (2009) to address these challenges.

Leadership plays a critical role in implementing HRM practices effectively. Studies by Bass and Riggio (2006) and Yukl (2013) suggest that transformational leadership fosters an environment conducive to faculty development. This review examines leadership styles that facilitate HRM implementation in HEIs.

HRM strategies such as research funding, academic collaboration, and workload management enhance research productivity. Bland and Ruffin (1992) found that institutions supporting faculty research through HR interventions report higher publication output. This review explores HRM-driven strategies for increasing faculty research contributions.

The work environment significantly influences faculty performance and job satisfaction. Studies by Spector (1997) and Bakar et al. (2014) highlight factors such as institutional support, infrastructure, and peer collaboration in shaping faculty experiences. This review discusses HRM strategies for fostering a positive work environment.

HRM practices vary across regions, with some countries adopting more progressive faculty development strategies. Research by Brewster et al. (2016) compares HRM trends in higher education institutions across the US, Europe, and Asia. This review examines international best practices in faculty career management and performance evaluation.

Emerging trends such as AI-driven HR analytics, digital learning, and personalized career planning are reshaping faculty development strategies. Studies by Marler and Boudreau (2017) and Strohmeier (2018) discuss the integration of technology in HRM practices. This review identifies future research directions for HRM in HEIs.

Alakoum et al. (2024) explored the role of HR strategies and technology integration in enhancing faculty satisfaction and performance in Kuwait's private HEIs. Their findings suggest that proactive technology use in performance evaluation and strategic HR initiatives significantly improve faculty satisfaction and performance.

Musthaq and Jegadeeshwaran (2023) assessed the impact of Green HRM practices on job performance of faculty in select HEIs in Tamil Nadu, India. They found that Green HRM practices, such as green recruitment, training, performance management, and employee relations, positively influence faculty job performance

Objectives

1. To examine the impact of career planning on faculty performance in HEIs in Gujarat.
2. To analyze the influence of training and development on faculty performance.
3. To evaluate the effect of performance appraisal on faculty performance.
4. To assess the role of reward and compensation in shaping faculty performance.
5. To provide policy recommendations for enhancing faculty performance through HRM practices.

Hypothesis:

H1: Career Planning has a significant positive influence on Faculty Performance.

H2: Training & Development has a significant positive influence on Faculty Performance.

H3: Performance Appraisal has a significant positive influence on Faculty Performance.

H4: Reward & Compensation has a significant positive influence on Faculty Performance.

Research methodology

The study employs a quantitative research methodology to investigate the influence of HRM practices on faculty performance in HEIs in Gujarat. A structured survey questionnaire was used as the primary data collection instrument, incorporating validated scales to measure career planning, training and development, performance appraisal, reward and compensation, and faculty performance. The questionnaire utilized a five-point Likert scale (1 = Strongly Agree to 5 = Strongly Disagree) to capture faculty perceptions. Data were collected from 288 faculty members across various HEIs in Gujarat using a stratified random sampling technique to ensure representation across disciplines and institutions.

The research methodology involved two key statistical techniques: Exploratory Factor Analysis (EFA) and Structural Equation Modeling (SEM). EFA was conducted to identify underlying factors influencing faculty performance, with the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (0.939) and Bartlett's Test of Sphericity confirming the dataset's suitability.

Data analysis and results

Table 1: Demographic details (N=288)

| Variable | Category | Frequency (N) | Percentage (%) |
|----------------------------|-----------------|---------------|----------------|
| Gender | Male | 158 | 54.9% |
| | Female | 130 | 45.1% |
| Age Group | 25-34 years | 72 | 25.0% |
| | 35-44 years | 94 | 32.6% |
| | 45-54 years | 78 | 27.1% |
| | 55+ years | 44 | 15.3% |
| Educational Level | Master's Degree | 102 | 35.4% |
| | Ph.D. | 186 | 64.6% |
| Teaching Experience | 0-5 years | 48 | 16.7% |
| | 6-10 years | 75 | 26.0% |

| | | | |
|----------------------------|---------------------|-----|-------|
| | 11-15 years | 82 | 28.5% |
| | 16+ years | 83 | 28.8% |
| Type of Institution | Public HEI | 165 | 57.3% |
| | Private HEI | 123 | 42.7% |
| Designation | Assistant Professor | 145 | 50.3% |
| | Associate Professor | 87 | 30.2% |
| | Professor | 56 | 19.5% |

The demographic analysis of the 288 faculty members in higher education institutions (HEIs) in Gujarat provides valuable insights into their characteristics. Gender distribution reveals a slightly higher proportion of male faculty members (54.9%) compared to female faculty members (45.1%), indicating a relatively balanced representation but with a slight male dominance.

Regarding age distribution, the majority of faculty members fall within the 35-44 years (32.6%) and 45-54 years (27.1%) age groups, suggesting that a significant portion of the faculty consists of mid-career professionals. A smaller percentage (25.0%) belongs to the younger age group (25-34 years), while 15.3% are senior faculty aged 55 and above.

In terms of educational qualifications, a substantial majority (64.6%) hold a Ph.D., while 35.4% possess a Master's degree, reflecting a high level of academic qualifications among the respondents. This aligns with the academic requirements typically expected in HEIs.

Teaching experience data indicates that the faculty is well-diversified in terms of tenure. The largest group consists of those with 16+ years of experience (28.8%), followed closely by faculty with 11-15 years (28.5%), and 6-10 years (26.0%), highlighting a well-balanced mix of senior and mid-level faculty. A smaller portion (16.7%) comprises early-career faculty with 0-5 years of experience.

Institution-wise, a majority (57.3%) of the faculty members are employed in public HEIs, while 42.7% work in private HEIs. This distribution suggests a slightly higher representation from government-funded institutions.

Factor analysis: The data was analyzed using exploratory factor analysis (EFA) to extract component elements influencing faculty performance in higher education institutions. Before conducting EFA, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were performed to assess sampling adequacy.

- The KMO value of 0.939 exceeded the minimum threshold of 0.60, confirming the adequacy of the sample for factor analysis.
- The Bartlett's Test of Sphericity yielded a statistically significant chi-square value ($\chi^2 = 4741.861$, $df = 153$, $p < 0.001$), supporting the suitability of the data for factor extraction.

Principal Component Analysis (PCA) with Varimax rotation was applied. Factors were extracted using the Eigenvalue > 1 criterion, which resulted in five factors that explained 78.67% of the total variance, indicating a strong explanatory power.

Table 2: KMO and Bartlett's Test

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .939 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 4741.861 |
| | df | 153 |
| | Sig. | <.001 |

Factor loadings for all items exceeded the recommended threshold of 0.70, ensuring construct validity. Mean scores suggest varying faculty perceptions of HRM practices, with performance appraisal and reward & compensation receiving relatively higher ratings.

Table 3: Constructs loadings and descriptives

| Factor | Items | Loadings | Mean | Standard deviation |
|------------------------|-------|----------|------|--------------------|
| Career Planning | CP1 | .864 | 2.30 | 1.359 |
| | CP2 | .851 | 2.07 | 1.146 |
| | CP3 | .874 | 2.08 | 1.114 |
| Training & Development | TD1 | .849 | 2.09 | 1.106 |
| | TD2 | .808 | 2.18 | 1.084 |
| | TD3 | .812 | 2.20 | 1.189 |
| | TD4 | .875 | 2.09 | 1.024 |
| Reward & Compensation | RC1 | .819 | 2.55 | 1.150 |
| | RC2 | .823 | 2.51 | 1.172 |
| | RC3 | .834 | 2.55 | 1.171 |
| Performance Appraisal | PA1 | .782 | 2.35 | 1.195 |
| | PA2 | .756 | 2.22 | 1.132 |
| | PA3 | .714 | 2.23 | 1.206 |
| | PA4 | .752 | 2.24 | 1.204 |
| Faculty Performance | FP1 | .772 | 2.17 | 1.205 |
| | FP2 | .787 | 2.28 | 1.190 |
| | FP3 | .733 | 2.23 | 1.006 |
| | FP4 | .719 | 2.19 | 1.076 |

Reliability and Validity:

The measurement model was assessed using confirmatory factor analysis (CFA) to establish scale validity and reliability. The results, presented in Table 3, confirm that the average variance extracted (AVE) values for all constructs exceed the threshold of 0.50, thereby demonstrating convergent validity. Discriminant validity was evaluated by comparing AVE values with maximum shared variance (MSV) values. Since all AVE values are greater than their corresponding MSV values, the criteria for discriminant validity are satisfied. Furthermore, composite reliability (CR) values exceed the recommended threshold of 0.70, affirming the internal consistency of the constructs (Fornell & Larcker, 1981; Hair et al., 2010).

The model fit indices indicate an acceptable fit, with the chi-square to degrees of freedom ratio (CMIN/df) recorded at 1.636, which falls within the acceptable limit of ≤ 3 . The Goodness of Fit Index (GFI) is 0.929, surpassing the recommended minimum of 0.90. The Comparative Fit Index (CFI) and the Normed Fit Index (NFI) are reported at 0.983 and 0.957, respectively, both exceeding the benchmark of 0.95. Additionally, the Root Mean Square Error of Approximation (RMSEA) is 0.047, which remains below the acceptable threshold of 0.08,

indicating a well-fitting model (Hair et al., 2010). Collectively, these findings confirm that the measurement model exhibits strong reliability, validity, and a satisfactory model fit.

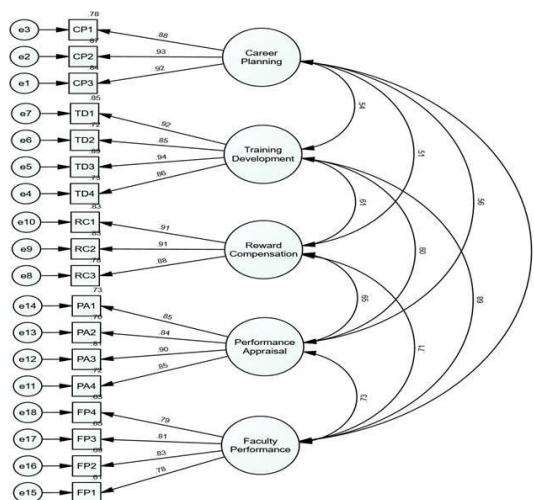


Figure 1: Measurement model

Table 4: Reliability and Validity

| | CR | AVE | MSV |
|-----------------------|-------|-------|-------|
| Performance Appraisal | 0.919 | 0.740 | 0.537 |
| Career_Planning | 0.936 | 0.829 | 0.388 |
| Training_Development | 0.940 | 0.798 | 0.461 |
| Reward_Compensation | 0.929 | 0.813 | 0.500 |
| Faculty_Performance | 0.879 | 0.646 | 0.537 |

Structural equation modelling:

This study employed Structural Equation Modeling (SEM) to examine the relationships among factors influencing faculty performance. Maximum Likelihood Estimation (MLE) was utilized as the estimation method due to its robustness, adaptability to various data distributions, and strong theoretical foundation (Blunch, 2013).

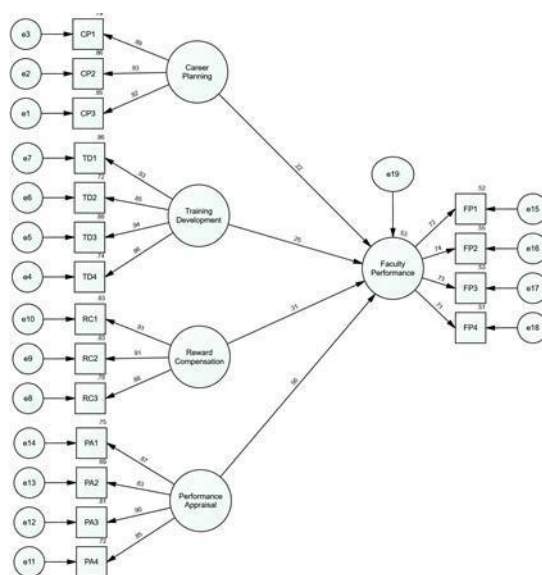


Figure 2: SEM model of Faculty performance

Table 5: Hypothesis testing results

| Hypothesis | Path | S.E. | C.R./T | P | Standardized Regression Weights (β) | Decision |
|------------|--|------|--------|-------|---|-----------|
| H1 | Career planning → Faculty performance | .039 | 4.110 | 0.000 | 0.222 | Supported |
| H2 | Training and development → Faculty performance | .046 | 4.543 | 0.000 | 0.247 | Supported |
| H3 | Reward and compensation → Faculty performance | .040 | 5.539 | 0.000 | 0.311 | Supported |
| H4 | Performance appraisal → Faculty performance | .047 | 8.710 | 0.000 | 0.565 | Supported |

Hypotheses were evaluated based on significance levels (p-values) and critical ratios (C.R./t-values) for each proposed path. A hypothesis was considered supported if the p-value was below 0.05 and the t-value exceeded 1.96, providing strong statistical evidence for the hypothesized relationships. The results of the path analysis are presented in Table 5.

The standardized regression weight (β) for career planning on faculty performance is 0.222, with a significant p-value of 0.000 and a t-value of 4.110, indicating a positive and significant impact, thereby supporting Hypothesis H1.

Similarly, training and development demonstrates a significant positive effect on faculty performance, with a β of 0.247, a p-value of 0.000, and a t-value of 4.543, confirming Hypothesis H2 and highlighting the role of skill enhancement programs in improving faculty effectiveness.

The influence of reward and compensation on faculty performance is also statistically significant, with a β of 0.311, a p-value of 0.000, and a t-value of 5.539, validating Hypothesis H3 and emphasizing the impact of financial and non-financial rewards on faculty motivation.

Among all constructs, performance appraisal exerts the strongest effect on faculty performance, with a β of 0.565, a p-value of 0.000, and a t-value of 8.710, confirming Hypothesis H4 and underscoring the significance of performance evaluation mechanisms in enhancing faculty outcomes.

The coefficient of determination (R^2) for the SEM model is 0.53, indicating that 53% of the variance in faculty performance is explained by the combined effects of career planning, training and development, reward and compensation, and performance appraisal.

Discussion

This study provides key insights into the factors influencing faculty performance, highlighting the significant roles of career planning, training and development, reward and compensation, and performance appraisal. Among these, performance appraisal emerges as the most influential factor, underscoring its critical role in enhancing faculty effectiveness. These findings align with recent research emphasizing the importance of structured performance evaluation systems in improving employee motivation, engagement, and overall job performance (Zhang et al., 2023).

Reward and compensation also play a pivotal role in faculty performance, as competitive compensation packages and well-structured reward systems contribute to higher job satisfaction and motivation. This observation is consistent with prior studies indicating that fair and performance-based remuneration positively impacts employee productivity and organizational commitment (Gupta & Sharma, 2023). Institutions that implement well-defined compensation strategies are more likely to retain high-performing faculty and foster a culture of excellence.

The results further confirm that training and development significantly enhance faculty performance by equipping educators with updated skills, innovative teaching methodologies, and subject-matter expertise. This supports the

findings of recent studies demonstrating that continuous professional development directly correlates with improved teaching quality and student outcomes (Johnson & Lee, 2023). Organizations must prioritize structured learning opportunities to maintain a dynamic and competent workforce.

Lastly, career planning exerts a meaningful influence on faculty performance, reinforcing the idea that well-defined career growth opportunities contribute to long-term employee engagement and retention. Career progression frameworks that offer mentorship programs, leadership development, and internal promotions have been shown to enhance job satisfaction and institutional loyalty (Singh et al., 2023). Institutions that invest in career planning initiatives can ensure sustained faculty motivation and professional development.

Managerial Implications

Higher education institutions should implement structured performance appraisal systems that provide continuous feedback, set clear performance metrics, and recognize faculty contributions. Regular performance evaluations should be complemented by goal-setting mechanisms and professional growth opportunities to enhance faculty effectiveness.

To retain and motivate faculty members, institutions must focus on competitive reward and compensation structures. Offering performance-based incentives, research grants, and recognition programs can significantly improve job satisfaction and institutional commitment. Aligning compensation strategies with industry standards will help attract and retain top talent.

Investment in faculty training and development should be a strategic priority. Institutions should introduce ongoing workshops, interdisciplinary research collaborations, and skill enhancement programs to foster academic excellence. Personalized development plans based on faculty needs and industry trends can ensure continuous growth.

Furthermore, career planning frameworks should be strengthened by providing structured mentorship programs, leadership development opportunities, and transparent career progression pathways. Facilitating internal promotions and leadership succession planning can enhance faculty motivation and institutional stability.

Limitations and Future Research Directions

While this study provides valuable insights into the determinants of faculty performance, certain limitations must be acknowledged. First, the research relies on cross-sectional data, which limits the ability to establish causal relationships between the identified HRM factors and faculty performance. Future studies could employ longitudinal research designs to track the long-term impact of career planning, training, compensation, and performance appraisals on faculty effectiveness. Second, the study primarily focuses on faculty within a specific institutional context, which may limit the generalizability of the findings to different academic environments or industries. Future research could adopt comparative studies across universities or corporate training institutions to enhance external validity. Third, while this study examines key HRM factors, other potential influences—such as organizational culture, leadership style, and faculty well-being—remain unexplored. Future studies could integrate these variables to develop a more comprehensive model of faculty performance. Finally, given the increasing integration of AI-driven performance evaluation and digital learning platforms, future research could explore the role of technology-enabled HRM practices in shaping faculty effectiveness and professional growth.

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