



Dimensions of HR Challenges in Indian Commercial Banks: An Exploratory Factor Analysis

Dr. Sarika Chaurasia

Assistant Professor, Department of Commerce, Ramdayalu Singh College, Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur, Bihar, India.

Email: thesarika.1@gmail.com

Abstract

The present study attempts to identify the important dimensions of HR challenges in Indian commercial banks. The study follows the post-positivism worldview, and it is typically seen as an approach to quantitative research based on self-structured questionnaire with 360 respondents (participations) of public and private sector banks in Varanasi Zone in 2:1 ratio of public and private and 1:2 ratio of managerial and non-managerial cadre of employees .respectively. The sampling unit consists of employees working in 52 branches of public sector banks and 20 branches of private banks in Varanasi Zone. The questionnaire consists of 10 dimensions of HR challenges incorporated several statements under each dimension. However, on using Exploratory Factor Analysis (EFA), out of 59 extracted variables, 50 variables were retained and labeled under 11 different groups or factors and discarded 9 variables. The reliability and inner consistency of these eleven factors was very high i.e., 0.948. This research study concludes that Indian commercial banks are afflicted with four major HR challenges namely, Career Growth & Opportunities, Salary & rewards, HR process and Employee welfare resulting in slow pace of the performance of banking sector. Moreover, Quality of Work- Life (QWL), Performance Management, Training & Development, Employee Retention, HR Integration, HR maintenance and Acquisition are the opportunities through which Indian commercial banks can lead further and sustain in the global environment.

Keywords: HR Challenges, Dimensions, Commercial Banks and Opportunities.

DOI: 10.48047/ecb/2023.12.8.520

Motivation of the Study

In the context of a developing economy like India, where the need for formation of capital is pressing, where developments in the field of industrial and bank management are dynamic, and where financial crises accompanying pangs of economic growth are frequent, the challenges posed by HRM are great importance; and, as a sequel, exploring the possibilities of the application of HRM becomes a very relevant field of enquiry and research. According to **Lawler (2005)**, society has entered a new era in the relationship between organizations and their employees. In this new era, people are the primary source for a company's competitive advantage and organizational prosperity and survival depends on how employees are treated. In the words of **Senyucel (2009)**, HRM as a combination of people-centered management practices that recognizes employees as assets and geared to creating and maintaining skilful and committed workforce for achieving

organizational goals. From these definitions, it is clear that efficient HRM practices are inevitable factor in determining the growth and prospects of any organization. Human resource is the most precious asset and delicate factor of production.. In this global competitive world, it is necessary to retain skilled workers in the organization by efficient HRM practices. The overall performance of any organization depends upon the extent to which human resource is effectively utilized.

1. Research Review

The development of human resources has a great importance for the future of the organization. **Al-Aamri (2010)** argued that business all over the world today is very challenging. Internal and external operating environmental factors continue to challenge corporate performance and revenue growth. **Tessema & Soeters (2006)** have studied eight HR practices and their relationship with perceived employee performance. These eight practices include recruitment and selection practices, placement practices, training practices, compensation practices, employee performance evaluation practices, promotion practices, grievance procedure and pension or social security. **Henson (2003)** stated that widespread market volatility, coupled with layoffs, talent shortages and rapid shifts in technology, points to heightened challenges for human resources (HR) organizations. Further, concluded that becoming and remaining an employer of choice is the top-ranking HR-related challenge organizations face today. **Babu & Eimani (2014)** in their study identified the major HR challenges that are based on the various sub-functions of HR such as workforce demographics and diversity; recruitment; employee engagement and talent retention; employee motivation; globalization of business; economic and technological changes; managing change; developing leadership; conflict management; and fostering excellence.

2. Objective and Hypothesis

This study intends with the sole objective to identify the important dimensions of HR challenges in Indian commercial banks. Accordingly, a hypothesis has been formulated i.e. all the dimensions of HR challenges are significant in Indian Commercial Banks.

3. Research Methods

3.1. Survey Procedure and Samples

The study follows the post-positivism worldview, and it is typically seen as an approach to quantitative research based on self-structured questionnaire with 360 respondents (participations) of public and private sector banks in Varanasi Zone in 2:1 ratio of public and private and 1:2 ratio of managerial and non-managerial cadre of employees respectively, complying sampling adequacy of deVaus (2002); Cochran (1977) and Zikmund (2003) which was selected through proportionate stratified sampling technique. Data have been gathered from working branches are located in different geographical areas like urban, semi-urban and rural areas under thirteen districts of Varanasi Zone, UP state, India. The sampling unit consists of employees working in 52 branches of public sector banks and 20 branches of private banks in Varanasi Zone.

3.2. Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) method has been used to analyze the data. Exploratory Factor Analysis (EFA) is one of the most widely used statistical methods in psychological research (Fabrigar et al., 1999) prompted by the need to go beyond the individual items of tests and questionnaires to reveal the latent structure that underlies them. EFA is used to ‘identify the factor structure or model for a set of variables’. As its name implies, EFA is an exploratory method used to generate theory; researchers use EFA to search for the smaller set of k latent factors to represent the larger set of j variables (Bandaloes, 1996). Firstly, factor analysis reduces a larger number of variables into a smaller set of variables (also referred to as factors). Secondly, it establishes underlying dimensions between measured variables and latent constructs, thereby allowing the formation and refinement of theory. Thirdly, it provides construct validity evidence of self-reporting scales (Gorsuch, 1983; Hair et al., 1995; Tabachnick & Fidell, 2001; Thompson, 2004). According to Nunnally (1978), cited by Thompson (2004): 77

“Factor analysis is intimately involved with questions of validity. Factor analysis is at the heart of the measurement of psychological constructs”.

3.3. Dimensions of HR Challenges

The existing literature (Elangovan, 2002; Kulshretha, 2010; Gupta, 2010; Sharma, 2011; Chew, 2014) pertaining to this study was reviewed to have a thorough knowledge of the subject before preparing the questionnaire. The questionnaire consists of **10 dimensions of HR challenges** incorporated several statements under each dimension. These dimensions are Acquisition Related Challenges, Training & Leadership Development Related Challenges, Career Growth & Opportunities Related Challenges, Performance Management Related Challenges, Salary & Reward Related Challenges, Job Design Related Challenges, Quality of Work-Life (QWL) Related Challenges, Staff-Welfare Related Challenges, HR Integration related Challenges and Organizational Context Related Challenges.

Table 1.1: Identified Factors and Variables

| Sr. No. | HR Challenges Factors | HR Challenges Variables | Researchers (Sources) |
|---------|--------------------------------|---|---------------------------------|
| 1. | Acquisition Related Challenges | a) HR planning policy b) Recruitment policy c) Selection criterion d) Attract the best talent e) Promotion policy f) Transfer policy | ➤ Gupta, 2010 ➤ Sharma, 2011 |

| | | | |
|----|---|---|---|
| 2. | Training and Leadership Development Related Challenges | <ul style="list-style-type: none"> a) Need for training b) Knowledge and skills c) Opportunities to participate d) Leadership practices | <ul style="list-style-type: none"> ➤ Kulshrehtha, 2010 ➤ Sharma, 2011 ➤ Chew, 2014 |
| 3. | Career Growth and Opportunities Related Challenges | <ul style="list-style-type: none"> a) Personal and career growth b) Career planning and development c) Awareness of growth opportunities d) Match between personal goals and organizational opportunities | <ul style="list-style-type: none"> ➤ Elangovan, 2002 ➤ Kulshrehtha, 2010 |
| 4. | Performance Management Related Challenges | <ul style="list-style-type: none"> a) Potential appraisal b) Performance counseling c) Awareness of appraisal method d) Quality of appraisal method e) Fairness of appraisal system | <ul style="list-style-type: none"> ➤ Kulshrehtha, 2010 |
| 5. | Salary and Reward Related Challenges | <ul style="list-style-type: none"> a) Remuneration commensurate with qualification b) Pay structure and scales c) Fairness of salary to responsibilities d) Better rewards e) Performance-based incentives and bonuses | <ul style="list-style-type: none"> ➤ Gupta, 2010 |
| 6. | Job Design Related Challenges | <ul style="list-style-type: none"> a) Motivational job design b) Challenging work c) Flexible work hours d) Job enrichment and job enlargement | <ul style="list-style-type: none"> ➤ Sharma, 2011 ➤ Chew, 2014 |
| 7. | Quality of Work-Life (QWL) Related Challenges | <ul style="list-style-type: none"> a) Physical working conditions b) Supervisor's attitude c) Favorable workplace climate d) 'We' feeling e) Mutually Problem solving f) Friendly environment g) More rewards less criticisms h) Communication i) Best workplace | <ul style="list-style-type: none"> ➤ Elangovan, 2002 ➤ Gupta, 2010 ➤ Chew, 2014 |

| | | | |
|-----|--|--|--|
| 8. | Staff-Welfare Related Challenges | a) Employee welfare b) Flexible benefits c) Casual leave d) Social security measures e) Allowances and re-imburement | ➤ Chew, 2014 |
| 9. | Integration related Challenges | a) Conflicts between employees and management b) Grievances c) Delegation of authority d) Suggestions from subordinates e) Cordial management-employee relations | ➤ Elangovan, 2002 ➤ Sharma, 2011 |
| 10. | Organizational Context Related Challenges | a) Change management b) Growth strategies c) Financial objectives d) Workforce diversity e) Gender indiscrimination policy f) Social responsibility g) Good customer services h) Outsourcing i) Latest Technology j) Employee Engagement k) Employee Retention l) Work-life balance | ➤ Gupta, 2010 ➤ Kulshrehtha, 2010 ➤ Chew, 2014 |

(Source: Researcher's Compilation)

3.4.Measurement Scales

The study uses the three levels of measurement namely- nominal, ordinal and interval scale. The scholar has used 4-point Likert scale with no middle option (also called Force Choice Likert Scale) to indicate a degree of agreement or disagreement with each of the statement incorporated in the research instrument and 4-point Likert importance scale to indicate the level of importance with different dimensions in the research instrument. Respondents were asked to reply to various statements on 4-point Likert scale ranging from “**Strongly Agree = 4, Agree = 3, Disagree = 2 and Strongly Disagree = 1**” and 4-point Likert importance scale ranging from “**Not Important at All = 1, Somewhat Important = 2, Important = 3 and Very Important = 4**”.

4. Statistical Results and Discussion

4.1.Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

Prior to the extraction of the constructs, there are some tests which must be conducted to examine the adequacy of the sample and the suitability of data for factor analysis (**Burton & Mazerolle, 2011**).

Table 1.2: Result of KMO and Bartlett's Test of Sphericity

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | .728 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2.265E4 |
| | df | 1711 |
| | Sig. | .000 |

The Kaiser–Mayer–Olkin (KMO) measure verified the sampling adequacy for the analysis. In the Table 1.2, the KMO calculated is found to be 0.728 and represented to be a good score. The overall significance of correlation matrices is tested with Bartlett's Test of Sphericity. The χ^2 (1711) = 2.265E4, with Sig. value 0.000 ($p < 0.001$), indicated that correlation between items were significant for factor analysis which also satisfied the criteria provided by Bartlett (1954) who advocated that significant value ($p < 0.05$) is considered to be appropriate for factor analysis. The sample size of 360 respondents is adequate for factor analysis as the above mentioned result indicates.

4.2.Extraction Communalities

The Community of the variable range between 0 and 1, where 0 indicates that the common factors explains none of the variance and 1 indicates all the variance is explained by the common factors. Extraction communalities for a variable give the total amount of variance in that variable, explained by all the factors.

4.3.Variance Analysis

According to the K1 - Kaiser's (**Kaiser, 1960**) method, only constructs which has the eigenvalues greater than one should be retained for interpretation. This approach may be the best known and most used in practice (**Fabrigar et al., 1999**) because of its theoretical basis and ease of use (**Gorsuch, 1983**). Total Variance Explained summarizes the total variance explained by the factor analysis solution and gives an indication about number of useful factors. Fifteen components had eigenvalues over Kaiser's criterion of 1 and in combination explained 77.77% of the variance. Therefore, the data revealed that there are fifteen major factors that influence the HR challenges in Commercial Banks in India. Finally, these fifteen important factors are retained for further analysis.

4.4.Factor Loadings

For the extraction, principal component analysis method and for rotation, varimax orthogonal rotation method has been used. A sample of 360 respondents have been taken into study, therefore, the factor loadings of '0.30 and above' is considered significant, following the decision of **Stevens (2002)** and **Tabachnick & Fidell (2007)**. As a result, 59 variables were extracted into 15 components. For example, Component 1 is highly correlated with *HRP policy, talent acquisition, transfer policy, need based training, personal growth & development,*

motivational job design, HR communication, best workplace, employee welfare, social security measures and change management. Component 2 is highly correlated with compensation, pay structure and scales, equitable salary, reward system and incentives and bonuses and so on.

4.5. Dimensions of HR Challenges

For the purpose of the study, initially, the questionnaire consisting of 59 variables under 10 factors or dimensions, on the basis of review of available literature has been formulated to analyze the factors that contribute to HR challenges in Indian commercial banks. However, on using Exploratory Factor Analysis (EFA), out of 59 extracted variables, 50 variables were retained and labeled under 11 different groups or factors as shown in Table 1.3 as on next page:

Table 1.3: Summary of Dimensions of HR Challenges

| Sr. No. | Name of Factors | Name of Variables | Loadings | Eigenvalue | % of Variance | No. of Variables | Croanbach's Alpha | Mean | Rank |
|-------------------|-------------------------------|--|----------|---------------------------|---------------|------------------|-------------------|-----------|-----------|
| 1. | HR Process | HRP | .751 | 6.358 58.513 58.513 | 57.801 | 11 | 0.926 | 2.96 7 | IX |
| | | Attract the best talent | .816 | | | | | | |
| | | Transfer | .752 | | | | | | |
| | | Need for training | .563 | | | | | | |
| | | Personal and career development. | .647 | | | | | | |
| | | Motivational job design | .624 | | | | | | |
| | | Communication | .493 | | | | | | |
| | | Best workplace | .573 | | | | | | |
| | | Employee welfare | .404 | | | | | | |
| | | Social security measures. | .519 | | | | | | |
| Change management | .424 | | | | | | | | |
| 2. | Salary and Reward | Remuneration commensurate with qualification | .747 | 3.214 | 64.285 | 5 | 0.855 | 2.55 3 | X |
| | | Pay structure and scales | .813 | | | | | | |
| | | Fairness of salary to responsibilities. | .898 | | | | | | |
| | | Better rewards | .437 | | | | | | |
| | | Performance-based incentives and bonuses | .520 | | | | | | |
| 3. | Performance Management | Potential appraisal | .516 | 2.848 | 56.951 | 5 | 0.809 | 3.01 5 | VI |
| | | Fairness of appraisal system | .826 | | | | | | |
| | | Challenging work. | .429 | | | | | | |
| | | Supervisor's attitude | .669 | | | | | | |
| | | More rewards, less criticisms. | .466 | | | | | | |
| 4. | Communication | Awareness of the growth opportunities | .680 | 3.188 | 53.127 | 6 | 0.820 | 3.15 9 | II |
| | | Match between personal goals and organizational opportunities. | .566 | | | | | | |
| | | We feeling | .373 | | | | | | |
| | | Mutually problem solving | .366 | | | | | | |
| | | Gender indiscrimination policy. | .591 | | | | | | |
| | | Good customer services | .652 | | | | | | |
| 5. | Acquisition | Recruitment | .774 | 2.108 | 70.272 | 3 | 0.788 | 3.32 0 | I |
| | | Selection | .789 | | | | | | |

| | | | | | | | | | |
|----------------|--|---------------------------------------|------|-------|--------|-----------|--------------|--------------|-------------|
| | | Promotion policy | .597 | | | | | | |
| 6. | Employee Welfare | Flexible benefits | .616 | 2.381 | 59.524 | 4 | .771 | 2.998 | VIII |
| | | Casual leave | .583 | | | | | | |
| | | Grievance | .433 | | | | | | |
| | | Suggestions from subordinates | .597 | | | | | | |
| 7. | Training and Development | Opportunities to participate | .546 | 1.904 | 63.474 | 3 | 0.712 | 3.081 | V |
| | | Performance counseling | .718 | | | | | | |
| | | Awareness of appraisal method | .502 | | | | | | |
| 8. | Retention | Friendly environment | .366 | 2.971 | 49.515 | 6 | 0.776 | 3.121 | IV |
| | | Financial objectives | .743 | | | | | | |
| | | Social responsibility. | .491 | | | | | | |
| | | Employee engagement | .434 | | | | | | |
| | | Employee retention | .636 | | | | | | |
| | | Work-life balance | .474 | | | | | | |
| 9. | Quality of Work-Life | Physical working conditions | .733 | 2.033 | 67.771 | 3 | 0.762 | 3.006 | VII |
| | | Favorable workplace climate | .539 | | | | | | |
| | | Allowances & re-imbursment | .553 | | | | | | |
| 10. | Career Growth and Opportunities | Career planning & development | .799 | 1.666 | 83.278 | 2 | 0.795 | 2.462 | XI |
| | | Quality of appraisal method | .842 | | | | | | |
| 11. | Integration | Delegation of authority | .476 | 1.366 | 68.285 | 2 | 0.768 | 3.133 | III |
| | | Cordial management-employee relations | .549 | | | | | | |
| Overall | | | | | | 50 | 0.948 | 2.991 | |

- Extraction Method: **Principal Component Analysis**
- Rotation Method: **Orthogonal Rotation (Varimax with Kaiser Normalization)**
- Factor Loadings: ≥ 0.30
- Cronbach's Alpha Reliability: ≥ 0.60

Table 1.3 demonstrates the dimensions of HR challenges in Indian commercial banks. On using Exploratory Factor Analysis (EFA), 50 variables were retained into 11 different groups and factor analysis discarded 9 variables, namely, **Work schedule, Job enrichment & job enlargement, Workforce diversity, HR outsourcing, Knowledge based training, Leadership role, Growth strategies, Organizational conflicts** and **HR technology**. Therefore, it can be said that the formulated questionnaire was validated for analyzing the factors influencing HR challenges in Indian commercial banks except 9 variables which have been ignored. The factor name of the retained variables has been

specified as per the convenience and sense after reviewing the literature and questionnaire statements. The labeling of constructs is a theoretical, subjective and inductive process (**Pett et al., 2003**).

Table 1.3, it can be observed that 11 factors had been extracted with different numbers of variables. The first factor named **HR Process** consist of 11 variables with the loadings of .751, .816, .752, .563, .647, .624, .493, .573, .404, .519 and .424; the second factor, **Salary & Reward** comprises of 5 variables with the loadings of .747, .813, .898, .437 and .520; the third factor, **Performance Management** comprises of 5 variables with the loadings of .516, .826, .429, .669 and .466; the fourth factor, **HR Maintenance** comprises of 6 variables with the loadings of .680, .566, .373, .366, .591 and .652; the fifth factor, **Acquisition** comprises of 3 variables with the loadings of .774, .789 and .597; the sixth factor, **Employee Welfare** comprises of 4 variables with the loadings of .616, .583, .433 and .597; the seventh factor, **Training & Development** comprises of 3 variables hold the loadings of .546, .718 and .502; the eighth factor, **Retention** comprises of 6 variables hold the loadings of .366, .743, .491, .434, .636 and .474; the ninth factor, **Quality of Work- Life (QWL)** comprises of 3 variables hold the loadings of .733, .539 and .553; the tenth factor, **Career Growth & Opportunities** comprises of 2 variables hold the loadings of .799 and .842 and the last eleventh factor captioned **HR Integration** with 2 variables hold the loadings of .476 and .549.

The reliability and inner consistency of these eleven factors was very high i.e., 0.948. Among all the eleven factors, Career Growth & Opportunities, Salary & rewards, HR process and Employee welfare were considered to be the most important dimensions of HR challenges in Indian commercial banks. Other dimensions such as Quality of Work- Life (QWL), Performance Management, Training & Development, Employee Retention, HR Integration, HR maintenance and Acquisition are identified as the opportunities.

5. Conclusion and Policy Implications

This research study concludes that Indian commercial banks are afflicted with four major HR challenges namely, *Career Growth & Opportunities*, *Salary & rewards*, *HR process* and *Employee welfare* resulting in slow pace of the performance of banking sector. Moreover, *Quality of Work- Life (QWL)*, *Performance Management*, *Training & Development*, *Employee Retention*, *HR Integration*, *HR maintenance* and *Acquisition* are the opportunities through which Indian commercial banks can lead further and sustain in the global environment. According to **Singh & Dhawan (2012)**, globalization created an opportunity for the HR professionals to play 'leadership role' in assisting the organization to meet the competitive challenges. They further, concluded that the challenge is to create a performance culture where in opportunities are provided for enhanced performance. In the research study of **Narkhede & Joshi (2007)**, various HR challenges have been delineated such as, attracting and retaining talent, empowering employees, managing global workforce, managing workplace diversity, mergers and acquisition and cross-cultural communication. According to **Henson (2003)**, becoming and remaining an employer of choice is the top-ranking HR-related challenge. Further challenge is to create an environment that continuously fosters learning and development. Successfully turning HR challenges into opportunities to become an employer of choice needs to create a dynamic environment wherein people want to work and choose to remain.

References

- Bandalos, B. (1996). Confirmatory factor analysis. In J. Stevens (Ed.), *Applied multivariate statistics for the social sciences* (3rd ed., pp. 389-420). Mahwah, NJ: Lawrence Erlbaum.
- Bartlett, M. S. (1950). "Tests of significance in factor analysis. *British Journal of Psychology*, 3(2), 77-85.
- Bartlett, M. S. (1954). A note on the multiplying factors for various chi square approximations. *Journal of the Royal Statistical Society*, 16 (Series B), 296-298.
- Beardwell, I., Holden, L., & Claydon, T. (2004). *Human resource management a contemporary approach* (4th ed.). Harlow: Prentice Hall
- Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis*. New York: Free press.
- Burton, L. J., & Mazerolle, S. M. (2011). Survey Instrument Validity Part I: Principles of Survey Instrument Development and Validation in Athletic Training Education Research. *Athletic Training Education Journal*, 6(1), 27-35
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1(2), 245-276.
- Chew, Janet Cheng Lian. (2004). *The Influence of human resource management practices on the retention of core employees of Australian organizations: An empirical study* (Doctoral thesis, Murdoch Business School, Murdoch University, Western Australia). Retrieved from <http://researchrepository.murdoch.edu.au/656/2/02Whole.pdf>
- Costello, A. B., & Osborne, J. W. (2005). Best Practices in Exploratory Factor Analysis: Four Recommendations for Getting the Most from Your Analysis. *Practical Assessment Research & Evaluation*, 10(7), 1-9.
- Elangovan, B. (2002). *Human resource management in the nationalized banks- A study focusing on middle level supervisory officers of Coimbatore district* (Doctoral thesis, School of Management, Pondicherry University, Pondicherry, India). Retrieved from <http://shodhganga.inflibnet.ac.in/handle/10603/925>
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods*, 3, 272-299.
- Gaur, A. S., & Gaur, S. S. (2009). *Statistical methods for practice and research: A guide to data analysis using SPSS* (2nd ed.). New Delhi, India: Response Books.
- Gupta, Deepakshi. (2010). *Human resource development practices in information technology industry in India* (Doctoral thesis, Punjab School of Economics, Guru Nanak Dev University, Amritsar, Punjab, India). Retrieved from <http://shodhganga.inflibnet.ac.in/handle/10603/5107>
- Gorsuch, R. (1983). *Factor analysis*. Hillsdale, NJ: Erlbaum.
- Hair, J., Anderson, R., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis with readings*. Englewood Cliffs: Prentice-Hall.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods*, 7(2), 191-205.

- Henson, R. K., & Roberts, J. K. (2006). Use of Exploratory Factor Analysis in Published Research: Common Errors and Some Comment on Improved Practice. *Educational and Psychological Measurement*, 66(3), 393-416.
- Hogan, T. P., Benjamin, A., & Brezinksi, K. L. (2000). Reliability methods: A note on the frequency of use of various types. *Educational and Psychological Measurement*, 60(4), 523-531
- Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika*, 30(2), 179-185.
- Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement*, 20(1), 141-151.
- Kulshreshtha, Monika. (2010). *HRD intervention in Indian banking sector and their implication on employees managerial effectiveness: A study of selected public and private sector banks* (Doctoral thesis, Department of Management Studies, Purvanchal University, U.P., India) Retrieved from <http://shodhganga.inflibnet.ac.in/handle/10603/8564>
- Lawler, E. E. (2005). Creating high performance organizations. *Asia Pacific Journal of Human Resources*, 43(1), 10-17.
- Ledesma, R. D., & Valero-Mora, P. (2007). Determining the Number of Factors to Retain in EFA: an easy-to-use computer program for carrying out Parallel Analysis. *Practical Assessment, Research & Evaluation*, 12(2), 1-11.
- Netemeyer, R.G., Bearden, W.O. & Sharma, S. (2003). *Scaling procedures: Issues and applications*. Thousand Oaks: Sage Publications
- Nunnally, J. C. & Bernstein, L. H. (1994). *Psychometry theory* (3rd ed.). New York: McGraw Hill.
- Patel, M. K. (2006). *HRD practices in service industry: A study of women employees*. Jaipur, India: RBSA Publications.
- Pett, M. A., Lackey, N. M., & Sullivan, J. J. (2003). *Making Sense of Factor Analysis: The use of factor analysis for instrument development in health care research*. California: Sage Publications.
- Rao, P. S. (1992). *HRM: 2000 Indian Experiences*. New Delhi, India: Discovery.
- Ritter, N. L. (2010). *Understanding a Widely Misunderstood Statistic: Cronbach's α* . Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans.
- Sapru, R. K. (1987). *Personnel management in commercial banks*. New Delhi: Deep & Deep Publication.
- Senyucel, Z. (2009). *Managing human resources in the 21st century*. Retrieved from <http://www.bookboon.com>.
- Sharma, Suresh Kumar. (2011). *Human resource management practices in navratna public sector undertakings in India- A case study of GAIL India limited* (Doctoral thesis, Department of Public Administration, Punjabi University, Patiala, Punjab, India) Retrieved from <http://shodhganga.inflibnet.ac.in/handle/10603/4474>
- Storey, J. (2001). *Introduction: From personnel management to human resource management: A critical text*. London: Thomson Learning.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights, MA: Allyn & Bacon.

- Teeseema, M. & Soeters, J. (2006). Challenges and prospects of HRM in developing countries: Testing the HRM performance link in Eritrean Civil Service. *International Journal of Human Resource Management*, 17(1), 86-105.
- Thompson, B. & Daniel, L. G. (1996). Factor Analytic Evidence for the Construct Validity of Scores: A Historical Overview and Some Guidelines. *Educational and Psychological Measurement*, 56(2), 197-208.
- Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. Washington, DC, US: American Psychological Association.
- Velicer, W. F., Eaton, C. A., & Fava, J. L. (2000). Construct explication through factor or component analysis: A review and evaluation of alternative procedures for determining the number of factors or components. In R. D. Goffin and E. Helmes (Eds.), *Problems and solutions in human assessment: A festschrift to Douglas Jackson at seventy* (pp. 41-71). Hillsdale, NJ: Erlbaum.
- Williams, B., Brown, T., & Onsmann, A. (2010). *Exploratory factor analysis: A five-step guide for novices*. *Australasian Journal of Paramedicine*, 8(3). Retrieved from <http://ro.ecu.edu.au/jephc/vol8/iss3/1>
- Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. *Psychological Bulletin*, 99(3), 432-442.