



Structure of Human Capital Enhancing Human Resource Management Practices in India

Birasnav M (Corresponding author)

Department of Management Studies, Indian Institute of Technology Roorkee

Roorkee 247667, India

E-mail: birasnav@gmail.com

Rangnekar S

Department of Management Studies, Indian Institute of Technology Roorkee

Roorkee 247667, India

E-mail: srangnekar1@gmail.com

Abstract

In any firms, human resource (HR) practices are the direct investments on employees' human capital through which firms achieve competitive advantage and employees enhance their human capital. Recognizing the structure of HR practices comprised of distinct patterns would maximize the chances to understand the firms' ways of developing core competencies. This paper analyzes 472 employees' responses who work in Indian manufacturing industries to identify the patterns of human capital enhancing HR practices. Reward strategy, career-oriented training, performance appraisal, recruitment strategy, career management, and performance-oriented training are the patterns or factors derived from the HR practices, and validity of this structure is also proved by confirmatory factor analysis. Furthermore, there are certain associations found between these patterns and characteristics of both employees and firms from regression analyses.

Keywords: Human capital, Human capital development, Human resource practices

1. Introduction

Human capital development, a new notion across organizations, replaces the concept of employee development to face radical changes in the market environment. Simultaneously, devising strategies for developing and managing employees' human capital also facilitates firms to achieve competitive advantage. As a result, firms are more likely to realize improvement in overall financial performance due to sustaining the advantage. However, it depends on how firms differentiate strategies implementation to manage and develop intangible assets or human resources (HR) over tangible assets. Human resource management (HRM) is an important studying field in which much research attention has been given on creating core competencies, because of its "policies, practices, and systems that influence employees' behavior, attitudes and performance" (Noe, Hollenbeck, Gerhart & Wright, 2000, p. 4). Organizational HRM is an integrated system from which a set of dynamic and effective HR practices are derived and executed to develop and manage employees in view of achieving business strategic goals and exploit organizational benefits. Since the last two decades of the 20th century, firms have begun to invest financial resources on high technologies and modern production systems (e.g. computer aided manufacturing, computer integrated manufacturing, and flexible manufacturing system) to gain overall operational performance improvement. Correspondingly, they also face the requirement of a HR system constitutes of various practices such as recruiting and selecting knowledgeable, developing the necessary skills and knowledge of employees, frequently appraising employees performance, and encouraging employees to reinforce their innovative behaviors for operating the manufacturing systems. Snell and Dean (1992) described these organizational HR practices as human capital investments.

For particularly describing human capital, it is defined as embodied knowledge, skills, innovativeness, and capabilities of employees applied to accomplish organizational goals (Bontis, 2001). Due to the remarkable supportiveness of human capital on firm's strategy designing and executing, it is in general highly valued in the labor market only when it has potential to contribute on other firm's strategy, and otherwise, it would be valued much in the current firm. So organizations do not claim of owning human capital anywhere as these intangible capitals have been naturally belonging to employees. Therefore, firms generate claimable intellectual products like patents and copyrights by

influencing human capital through implementing HR practices. Despite of not owning human capital, firms' investment on human capital depends upon employee contribution on organizational performance. At this moment, human capital theory states that organizations have fewer chances to invest on human capital when employees have less contribution on economic value of firm (Snell & Dean, 1992). Further, the theory also states that employees have willingness to invest on their human capital as they have higher future benefits in terms of improvement in earning, gaining authority and status, and participating in high valued project. Firms would be more likely to invest on human capital which is firm-specific, nontransferable, and inimitable to other firms. Therefore, organizations involve greatly in firm-specific human capital development than generic human capital because of its value and uniqueness (Becker, 1975; Snell & Dean, 1992). Consequently, organization likes to invest on firm-specific human capital since it is the source for competitive advantage (Lepak & Snell, 1999).

The prime focus of the HRM is achieving organizational benefits. For instance, set of HR practices as an HR system, is positively associated with firm productivity and quality (Macduffie, 1995; Youndt, Snell, Dean & Lepak, 1996); and HR practices including recruitment, training, performance appraisal, and reward strategy are developed in the form of employee skills and organizational structures and employee motivation, and which are positively related to firm productivity and overall financial performance (Huselid, 1995). Organizations thus derive notable benefits to achieve advantage by implementing human capital enhancing HR practices. However, valid structure of these practices that include all aspects and its association with employees and organizational characteristics are not widely reported in firms especially in Indian firms. In this direction, this study: first examines the patterns of human capital enhancing HR practices with a particular focus in Indian manufacturing industries because these practices are effectively implemented in these industries; second, analyzes the validity of the structure of human capital focusing HR practices; third, identifies the degree of association between the HR patterns or factors and employees' gender and human capital variables such as age, education, rank, and tenure; and finds the degree of association between the HR factors and organizational size and ownership.

2. Human resource management and human capital

The investment oriented functions of the integrated HRM system in any organization are bound up with enhancing the ability of employees to cope with implemented modern technologies of the manufacturing system, and as a result, firms achieve certain benefits to sustain competitive advantage (MacDuffie, 1995; Huselid, 1995). The investment perspective is considered while formulating HR strategies in regard of recruitment, training, performance appraisal, career management, and reward management. Although these exemplified strategies are featured with their own characteristics, the prime focus of these functions is investing in human capital. In particular, to increase the stock of the human capital, the necessity of recruitment strategy is "creating a strategic plan for the organization, having specific requirements for each job and aligning them with the corporate and business strategies of the organization" (Ghosh & Geetika, 2007, p. 6). Identifying the recruitment mode for human capital that contributes to firm's competitive advantage enables all HR related managers to reconfigure the entire current workforce based on their potential. In this direction, researchers (Lepak & Snell, 1999, 2002) constructed human capital value-uniqueness framework to classify human capital enhancing HR practices and their degree of potential to take part in firm's advantage. It is showed that HR practices that increase employees' commitment at all levels involve in developing human capital but there are more chances prevalent to create commitment through internal development mode.

Training, another component of human capital, has squarely related to human capital development, because of "the acquisition of skills, concepts, or attitudes which result in improved performance in another environment" (Goldstein, 1983, p. 3). There are two situations in which the importance of training is realized or firms will invest in current employees' human capital development through training programs: if it is difficult for firms to attract talents (Ulrich, Zenger & Smallwood, 1999); and if firms experience low productivity improvement (Schultz, 1960). Apart from the contribution of recruitment and training on human capital creation, the association between performance appraisal and human capital creation is also very well studied. Appraising is a general process of facilitating interpersonal relationship between employees and managers through performance related discussions to analyze matching up of employees' performance with organizational goals (Wilson & Western, 2000). Specifically, researchers (Latham & Wexley, 1981; Snell & Dean, 1992) concentrate on development-oriented performance appraisal to human capital creation as it shifts employees focus from daily routine work activities to innovativeness for contributing to competitive advantage. Ukko, Tenhunen and Rantanen (2007) found that performance oriented discussions between employees and managers are directly related to organizational performance. However, the aspects focused on the appraisal process play a pivotal role in human capital development, because elevating relevant competencies would balance firms marginal cost with marginal revenue. Although top management realizes the importance of competencies or aspects to be appraised at employees, execution of these aspects in the performance management system is highly concerned (Abraham, Karns, Shaw & Mena, 2001).

Focusing the impact on human capital by reward strategy, which is described as an integrated reward approach in which company strategy, pay systems, and employee behaviors are interrelated (Lawler, 1994) would highlight organization's transactional rewards and relational rewards execution among employees to promote their human capital. Mainly, transactional or tangible rewards arise naturally between the employer and employees related to pay and benefits for employees' transactional obligations. Relational or intangible rewards are appreciations and recognitions to encourage human capital development by increasing learning capacity and to develop consistent innovative behaviors (Armstrong, 2007). Generally, employees are transactionally and relationally rewarded for providing innovative suggestions to solve complex engineering problems (Kerrin & Oliver, 2002).

On focusing the relation between career management and human capital development, there are certain strong evidences to prove the positive association between the duos. Career management is a "process by which individuals develop insight into themselves and their environment, formulate career goals and strategies, and acquire feedback regarding career progress" (Greenhaus, Callanan & Godshalk, 2000, p. 423). A usual career management practice across global manufacturing firms is job rotation, which is positively associated with continuous improvement on problem-solving skills that enhances employee human capital (Marler, 1998). In addition, Noe (1996) found that career exploration of seeking career-oriented suggestions or information from managers has certain impact on employee developmental behaviors (e.g. attending workshops and participating in a project). Therefore, engaging in career management practices facilitates employees to develop idiosyncratic knowledge (Lepak & Snell, 1999).

On providing a comprehensive list of human capital development focusing HR practices in this study, human capital is described as the combination of employee's capability and commitment (Ulrich et al., 1999). In this direction, Snell and Dean (1992) did empirically extract factors of selective staffing, comprehensive training, developmental performance appraisal, and equitable reward systems from a bundle of HR practices in the United States' manufacturing environment. Subsequently, Macduffie (1995) explored some bundle of innovative HR practices focusing on firm's economic performance, and simultaneously classified these practices as employee skill and knowledge development and employee commitment and motivation generation. On searching especially for commitment creating HR practices, Lepak and Snell (2002) provided a certain set of HRM practices in which commitment related practices are considered. Laursen and Foss (2003) constructed a set of measures including 9 innovative HR practices and extracted two factors among Danish companies. However, there is a lacuna in the explored practices as which are not covered the entire HR system in the organization. The reason is that the said researchers provided a list of human capital enhancing HR practices in which the contribution of career management practices are not extensively covered. In this direction, Delery and Doty (1996) constructed a measure of HR practices in which career management practices are included to prove its contribution on organizational financial performance. Specifically, Budhwar and Baruch (2003) developed a measure comprising 19 career management practices and identified the structure among Indian manufacturing firms. Further, research on integrating human capital creation and HRM system, which features recruitment strategy, training, performance appraisal, career development, and reward strategy provided a guideline of inclusion of certain practices (Birasnav & Rangnekar, 2008). The most of the above studies were experimented in western countries, and so it is expected that work culture of India might have certain impact on the studying human capital oriented HR practices. For example, Mendonca and Kanungo (1996) particularly described about Indian work culture as high uncertainty avoidance culture, which discourages employees' innovativeness, and so the specified culture is more likely to affect human capital creation. Despite of human capital embodied with employees, they are more conscious on HR practices' enhancement of human capital. Due to these reasons, modifications are unavoidable on the selected human capital focusing HR measure to cope up with Indian manufacturing employees. Such modification activities are carried out jointly with academicians and managers working in the field of HRM and human capital management, and these modified measures are listed in Appendix I. On these measures, commonalities could also be found. For example, the top six practices associate with recruitment, and last five practices are related to reward. So it is expected that the studying human capital focusing HR practices could possess some clusters based on its functions and similarities. And merging these factors into one- or two- factor would diminish the significant behaviors or characteristics of other factors. Therefore, we propose and hypothesize that

Proposition 1: The studying HR practices comprise of various patterns or clusters that characterized by various functions and behaviors.

Hypothesis 1: The patterns are very unique to human capital enhancing HR practices, and the interrelationship among patterns could also be found.

There are certain literatures explain the relationship between HR practices and employee gender and human capital variables such as age, education, rank, and tenure. For example, Lin and Huang (2005) assert that employees who are highly educated have had more chances to be promoted, and so they are more likely to attend career management oriented activities. In this direction, we believe of prevalent of certain association between HR factors and human capital variables. On exploring the influence of gender, Metcalfe (1989) found that women give preference to intrinsic

values, for example, challenging job, development opportunities, and autonomy. In contrast, men significantly prefer extrinsic values of high earnings and job security. It is believed that this difference could also be reflected in the association with HR factors. In line with factors of HR practices and employee characteristics, some relationships are found between organizational size and ownership and factors of HR practices. For example, job rotation, a career management practice is widely used in private sector firms than public sector firms (Friedrich, Kabst, Weber & Rodehuth, 1998). Further, to attract talents, larger organizations create a competitive packages and benefits in the labor market than medium and small sized firms (Ghosh & Geetika, 2007). Therefore, we hypothesize that

Hypothesis 2: The clusters of HR practices might have certain relationships with employee human capital and gender variables.

Hypothesis 3: The clusters of HR practices might have certain associations with firm size and ownership.

3. Methodology

472 Indian manufacturing employees who possess high value and uniqueness of human capital (see Lepak & Snell, 2002) are selected with the help of both random and non-random sampling procedures to provide response to the questionnaire mentioned in the Appendix I. The demographic characteristics of the participated employees are shown in Table 1, and they are mainly working in the companies of electric power generation, boiler production, two and four wheelers manufacturing, product assembly, fertilizer production, pharmaceuticals, sugar production, leather processing, home appliances manufacturing, watch manufacturing, paper production, chemical manufacturing, and cement manufacturing. For reducing the complications during the analyses, participants' education (1 = under graduate, 2 = post graduate), rank (0 = non-managerial rank, 1 = managerial rank), and gender (1 = male, 2 = female) and their organization size (1 = small, 2 = medium, 3 = large) and ownership (1 = private, 2 = public) are numerically considered. The studying measures show a very good internal consistency coefficient of reliability (cronbach $\alpha = 0.90$). Further, SPSS 15 and LISREL 8.7 are used to perform exploratory factor analysis, confirmatory factor analysis, and regression analyses to test the proposition and hypotheses.

4. Results

4.1 Factor structure of HR practices

The conducted exploratory factor analysis by principal component analysis with equimax rotation revealed a six factor structure of human capital focusing HR practices, and is shown in Table 2. Employees are perceived their human capital creation through six patterns or factors of HR practices, which accounted for about 50 per cent of variation on the HR practices, and that are:

Reward strategy: The items, team-based reward, competency-based reward, risk-taking is rewarded, year/month of employee award, and top management appreciation are clustered to form this factor, which explains over 26 per cent of variance on the mentioned HR practices. It is common across manufacturing companies on allocating reward based on employees' initiatives or risk-taking, and high performers would often receive some kind of recognition or appreciation from the management. The clustered five similar variables purposefully concentrate on rewarding employees, and so this cluster should be described as *reward strategy*.

Career-oriented training: The variables, sponsoring employees to attend conferences, providing appropriate training, time spent for training by firm, and number of career-oriented workshops attended by employees are grouped together under this factor that account for over 5 per cent of variance on the mentioned HR practices. In general, providing training to employees would more likely to advance their career. In this direction, firms develop strategies in align with training and employees' career, and such *career-oriented training* pertains to human capital creation.

Performance appraisal: The variables, opportunity for overcoming weakness, high frequency of appraisal, beneficial performance discussions with superiors, the kind of performance measurement system, and relevant aspects included in the appraisal are clustered into this pattern, which accounts for over 5 per cent of variation on the mentioned HR practices. This is a kind of *performance appraisal* focused for developmental purposes mainly facilitating performance-oriented discussions between managers and employees, and as a result, the desired skills for achieving organizational goals are consolidated.

Recruitment strategy: The variables, creating new position for talents, organization attractiveness, significant investment on recruitment process, and right candidates' selection are clustered into this factor, which explain over 4 per cent of variance on the HR practices. For contributing to competitive advantage, well established human capital framework is needed for recruitment. So, *recruitment strategy* concentrates on identifying high performers in and out of the organization.

Career management: The variables, holding on to the talents, career exploration by employees, job rotation implementation, persistence to achieve career goal, and self-nomination are grouped to form the fifth factor, which accounts for about 4 per cent of variance. Managing career significantly explains the improvement of employee

developmental behavior at a certain extent, and therefore, focus on *career management* is unavoidable for creating human capital.

Performance-oriented training: The variables, time taken to recruit and select a talent, sufficient in-house training facilities, willingness to participate in training program, acquiring knowledge and qualification from educational institutes, and number of sources providing feedback to an employee are clustered together to form this final pattern, which explained about 4 per cent of total variation. In line with Schultz (1960), when employees' performance significantly not explaining the productivity, organizations will involve in providing training to improve their performance. Such *performance-oriented training* is necessary to enhance employee human capital.

For accepting a factor extracted from exploratory factor analysis, Hair, Anderson, Tatham and Black (2003) recommend that a factor must have an eigenvalue of at least one and internal consistency coefficient of reliability or cronbach alpha of minimum 0.60. According to them, the above explained factors or patterns' psychometric properties are acceptable (see Table 2). Thus, proposition 1 is strongly accepted.

4.2 Validating six factor structure of HR practices

To prove the uniqueness of the factors of HR practices, confirmatory factor analysis (CFA) is conducted. On the part of this analysis, various alternative models are created according to Hair et al. (2003). These alternative models are one-, two-, three-, four-, and five-factor model, which are formed by merging one factor over other. Results of CFA are presented in Table 3, which presents chi square (χ^2), degrees of freedom (df), akaike information criterion (AIC), non-normed fit index (NNFI), comparative fit index (CFI), normed fit index (NFI), and standardized root mean square residual (SRMR), and shows that the six-factor model of HR practices ($\chi^2 = 580.46$, $df = 335$, $AIC = 746.83$, $NNFI = 0.97$, $CFI = 0.98$, $NFI = 0.95$, $SRMR = 0.046$) is more preferable according to the criteria for goodness-of-fit indices suggested by researchers (Hair et al., 2003; Van Dierendonck, 2005). Thus, six-factor model of HR practices has very good fit with the data collected from Indian manufacturing employees. Further, the six-factor structure distinguishes it from the alternative factor structures (one-, two-, three-, four-, and five-factor model). Particularly, on account of chi square, the present structure carries low value among other models as low value of chi square indicates the better fit model. Therefore, CFA results confirm that the six factors are very unique in the structure of HR practices, and absence of a factor would cause for insignificant model. CFA also measured the correlation between these factors, which are presented in Table 4. The correlation results show that all the factors are significantly interrelated. For example, correlation coefficient between reward strategy and career-oriented training is 0.69 and between performance appraisal and career management is 0.79. Therefore, these CFA results strongly support the hypothesis 1.

4.3 Association between HR factors and participant characteristics

The conducted regression analysis found certain significant associations between employee gender and human capital variables and factors of HR practices (see Table 5). In particular, reward strategy and performance appraisal are positively related to employee age and rank. Career management and performance-oriented training are associated positively with employee age but negatively with employee tenure. Career-oriented training carries positive relations with employee rank only, and recruitment strategy does not have any association with employee characteristics. Further, it is observed that gender has significant influence on career management and performance-oriented training. Consequently, these results recommend supporting hypothesis 2 moderately.

4.4 Association between HR factors and organizational characteristics

The conducted regression analysis found certain significant associations between organizational size and ownership and factors of HR practices (see Table 6). Specifically, firm size (towards large) has negatively related to reward strategy, performance appraisal, and performance-oriented training. Firm ownership (towards public sector) also has negative association with reward strategy, career-oriented training, performance appraisal, and recruitment strategy. Therefore, these results moderately support hypothesis 3.

5. Discussions

According to the characteristics and functions, human capital enhancing HR practices were clustered together to form certain factors namely reward strategy, career-oriented training, performance appraisal, recruitment strategy, career management, and performance-oriented training. The working environment and the extent of implementing HR practices in Indian manufacturing firms cause for certain deviations from other countries. Due to employees' career management and performance factors, the identified structure was particularly and significantly diversified from the structure of human capital enhancing HR practices in US manufacturing firms identified by Snell and Dean (1992). To elevate the association between career management and human capital enhancement, the practice of job rotation makes employees to perceive improvement in knowledge of business strategies and environmental influences in the organization (Campion, Cheraskin & Stevens, 1994), and due to this reason, Indian manufacturing firms initiated to provide career-oriented training to align employee needs with organizational needs. Like career management, reward strategy improves employee human capital by motivating employees to show consistent developmental behaviors

through corporate enthusiasm of recognizing and appreciating employees behavior, and as a result, increase of commitment of employees proves human capital creation (Fawcett, Rhoads & Burnah, 2004; Ulrich et al., 1999). This type of motivational reward in addition with competence-based reward immensely exists in private firms than public firms. Hereby, we found certain deviations on reward strategies between private and public firms in line with Mathur, Aycan and Kanungo (1996).

In general, low tenured employees value their career greatly and have willingness to attend training programs to improve their performance in comparison with highly tenured employees. So they utilize the present opportunities like participating in career oriented workshops, and job rotation and self-nomination for job mobility within a firm (Campion et al., 1994), and however, this situation exists extensively in private firms. Due to these reasons, negative relationship between career management and both tenure and organizational ownership was found in line with the past researches (Campion et al., 1994; Noe, 1996; Friedrich et al., 1998). Nevertheless, higher rank employees are experienced of understanding the organizational system, having firm-specific job experiences, having authority and power to innovate, and creating a formal or informal social network comprised of colleagues and customers. Network maintenance facilitates them during performance appraisal by rendering high performance ratings. Therefore, overall experiences of higher rank employees within the organizational system are highly associated with the promotion or career outcome. Hence, higher rank employees are often participating in career-oriented training (Markham, Harlan & Hackett, 1987), and perceive reward strategy strongly as risk-taking is related to reward. The gender variable is positively related to performance-oriented training, performance appraisal, and career management. In general, for being promoted, women who work in top level of the organization require to show high performance rating especially than men (Lyness & Heilman, 2006). Therefore, to be successful and advanced in their career, female employees must show their competencies to achieve career goals. At that moment, undergoing performance-oriented training increases the chances to gain success in career management. In this direction, we could say that women tend to pay more time to advance their career from performance evaluations and improvements similar to male counterparts.

Surprisingly, we identified a positive relationship between age and career management, which is quite reverse with previous findings (Campion et al., 1994; Noe, 1996; Cleveland & Shore, 1992). Presently, all firms invest on manufacturing systems, technologies, and employees to withstand the competitive forces, and however, they require certain kind of optimization on these investments. In view of securing job and being performers as like younger employees, above moderated aged employees are forced to participate in performance-oriented training, and through which they take responsibility to manage their career. However, they attain satisfaction from the skills they have, and more endeavor to create, innovate, and risk-taking (Kooij, de Lange, Jansen & Dijkers, 2008), and consequently, they view reward strategy positively. This was not happened in the relations of performance appraisal and employees' age. Because based on dissimilarity model, the age difference between employees group and supervisor will always result of supervisor rendering higher performance evaluations for the employees (Villanova & Bernardin, 1989). In similarity model, similar age between supervisor and employees attracts each other through interpersonal relationship and positive affect, and in turn, lead to provide higher performance evaluations for employees (Ferris, Judge, Chachere & Liden, 1991). Further, certain differences found between private and public firms in regard of appraising performance. Public sector firms follow rigid guidelines to conduct appraisal, whereas private sector employee's performance is always monitoring by immediate supervisor and superiors and there is flexibility in guidelines in regard of conducting performance appraisal.

Firms also take efforts to formulate recruitment strategy to analyze high performers who are highly able and more productive. Consequently, organizations increase the stock of human capital but it could not be claimed that all the human capital pool could contribute to firm's competitive advantage. Expectedly, we found differences in recruitment strategy between both public and private firms. Private sectors easily amend new job positions as and when no job positions prevalent to a talent, whereas public sectors are not in a position to offer new positions in India due to a complex political system. The chances are to adapt strategy such as active and informal and recruiting through internet more in case of private sectors, whereas it is low in public sectors.

Simple organizational structure allows high proximity between superior and employees in small and medium firms. In Indian small and medium firms, this proximity and fraternity approach of superiors creates a motivating climate through providing monetary and non monetary rewards to employees. So high performers would be transactionally rewarded and relationally rewarded since no fixed pay structure like large organizations (Saini & Budhwar, 2008). In addition, employees are allowed to perform their work independently and so risk-taking and creativity are highly encouraged. In most of the Indian small firms, it is hard to find an implemented performance measurement system. However, feedback about performance of a manager from employees, suppliers, and customers is directly brought up to owner, who then encourages good performance or suggests immediate measure to rectify poor performance of that manager in front of all the sources. Employees' self experience would also help to enhance their performance in the form of training in small firms (Saini & Budhwar, 2008).

6. Concluding remarks

This study described the significance of HRM practices for human capital development and thus improving firm productivity and quality and financial performance. Primarily, these practices are very much focused to develop employees in all levels of the organization. However, employees possessing high value and unique human capital significantly contribute to generate intellectual products which support to achieve competitive advantage. This study empirically explained the patterns through which Indian manufacturing employees perceived human capital development from firms' investment on HR practices. These investment methods were reward strategy to reinforce employees' consistent innovative behaviors, career-oriented training to advance employees' career within the firm, performance appraisal to improve required skills of employees, recruitment strategy to increase the stock of the human capital, career management to improve developmental behaviors of employees, and performance-oriented training to develop skills and knowledge of employees. Importantly, this study showed that efforts to hide any of these factors would affect the entire structure of human capital focusing HR practices. In addition, these HR patterns had certain relationship with employee gender and human capital variables such as age, education, rank, and tenure, and these associations have had similarities and dissimilarities with the previous researches. Expectedly, there were certain relationships found between factors of HR practices and organizational size and ownership.

However, there are certain factors constrains the interpretation of the above findings particularly: ratio of male to female employees participated in the study; absence of small and medium public owned manufacturing companies in the study; and sample comprised of only 12 political states of India. So care should be taken to generalize the findings of this study. However, these limiting factors are unavoidable because of the manufacturing industries are much male dominated and included with no small public firms. Further analysis is also possible by covering all the remaining political states of this country to analyze the structure of HR practices. Significant pattern of HR practices and what extent it explains human capital creation would be identified from developing a measure for human capital creation.

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References

- Abraham, S. E., Karns, L. A., Shaw, K., & Mena, M. A. (2001). Managerial competencies and the managerial performance appraisal process. *Journal of Management Development*, 20, 842-852.
- Armstrong, M. (2007). *Employee Reward Management and Practice*. London: Kogan page.
- Becker, G. S. (1975). *Human capital*. Chicago: University of Chicago Press.
- Birasnav, M., & Rangnekar, S. (2008). A conceptual model of human capital creation. In D. S. Chundawat, K. Saxena, & S. S. Bhadu (Eds.), *Managing Global Competition: A Holistic Approach* (pp. 261-273). New Delhi: Macmillan India.
- Bontis, N. (2001). Assessing knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3, 41-60.
- Budhwar, P. S., & Baruch, Y. (2003). Career management practices in India: An empirical study. *International Journal of Manpower*, 24, 699-719.
- Campion, M. A., Cheraskin, L., & Stevens, M. J. (1994). Career-related antecedents and Outcomes of job rotation. *Academy of Management Journal*, 37, 1510-1542.
- Cleveland, J., & Shore, L. (1992). Self- and supervisory perspectives on age and work attitudes and performance. *Journal of Applied Psychology*, 77, 469-484.
- Delery, J. E., & Doty, D. H. (1996). Modes of Theorizing in Strategic Human Resource Management: Tests of Universalistic, Contingency, and Configurational Performance Predictions. *The Academy of Management Journal*, 39, 802-835.
- Fawcett, S. E., Rhoads, G. K., & Burnah, P. (2004). People as the bridge to competitiveness- Benchmarking the 'ABCs' of an empowered workforce. *Benchmarking: An International Journal*, 11, 346-360.
- Ferris, G. R., Judge, T. A., Chachere, J. G., & Liden, R. C. (1991). The age context of performance evaluation decisions. *Psychology and Aging*, 6, 616-622.
- Friedrich, A., Kabst, R., Weber, W., & Rodehuth, M. (1998). Functional flexibility: merely reacting or acting strategically?. *Employee Relations*, 20, 504-523.
- Ghosh, P., & Geetika. (2007). Recruitment strategies: Exploring the dimensions in the Indian software industries. *Asian Journal of Management Cases*, 4, 5-25.

- Goldstein, I. L. (1983). *Training in organizations: Needs assessments, development, and evaluation*. Brooks/Cole: Pacific Grove.
- Greenhaus, J. H., Callanan, G. A., & Godshalk, V. M. (2000). *Career Management*. Sydney: The Dryden Press.
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (2003). *Multivariate Data Analysis*. New Delhi: Pearson Education.
- Huselid, M. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635-672.
- Kerrin, M., & Oliver, N. (2002). Collective and individual improvement activities: The role of reward system. *Personnel Review*, 31, 320-337.
- Kooij, D., de Lange, A., Jansen, P., & Dikkers, J. (2008). Older workers' motivation to continue to work: five meanings of age- A conceptual review. *Journal of Managerial Psychology*, 23, 364-394.
- Latham, G., & Wexley, K. N. (1981). *Increasing productivity through performance appraisal*. Reading, MA: Addison-Wesley.
- Laursen, K., & Foss, N. J. (2003). New human resource management practices, complementarities and the impact on innovation performance. *Cambridge Journal of Economics*, 27, 243-263.
- Lawler, E. E. (1994). *Effective reward systems, in Diagnosis for Organizational Change: Methods and models*. New York: Guilford Press.
- Lepak, D. P., & Snell, S. A. (1999). The Human Resource Architecture: Toward a Theory of Human Capital Allocation and Development. *The Academy of Management Review*, 24, 31-48.
- Lepak, D. P., & Snell, S. A. (2002). Examining the Human Resource Architecture: The Relationships among Human Capital, Employment, and Human Resource Configurations. *Journal of Management*, 28, 517-543.
- Lin, S., & Huang, Y. (2005). The role of social capital in the relationship between human capital and career mobility- Moderator or mediator?. *Journal of Intellectual Capital*, 6, 191-205.
- Lyness, K. S., & Heilman, M. E. (2006). When Fit Is Fundamental: Performance Evaluations and Promotions of Upper-Level Female and Male Managers. *Journal of Applied Psychology*, 91, 777-785.
- Macduffie, J. P. (1995). Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48, 197-221.
- Markham, W. T., Harlan, S. L., & Hackett, E. J. (1987). Promotion opportunity in organizations: Causes and consequences. In K. Rowland & G. Ferris (Eds.), *Research in personnel and human resource management* (pp. 223-287). Greenwich: Jai Press.
- Marler, J. H. (1998). The effect of TQM training, flexible work, and flexible technology on continuous improvement. *Journal of Quality Management*, 3, 241-264.
- Mathur, P., Aycan, Z., & Kanungo, R. N. (1996). Work Cultures in Indian Organisations: A Comparison between Public and Private Sector. *Psychology and Developing Society*, 8, 199-222.
- Mendonca, M., & Kanungo, R. N. (1996). Impact of culture on performance management in developing countries. *International Journal of Manpower*, 17, 65-75.
- Metcalf, B. A. (1989). What motivates managers: an investigation by gender and sector of employment. *Public Administration*, 67, 95-108.
- Noe, R. A. (1996). Is career management related to employee development and performance?. *Journal of organizational behavior*, 17, 119-133.
- Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2000). *Human Resource Management: Gaining a Competitive Advantage*. New York: Irwin-McGraw-Hill.
- Saini, D. S., & Budhwar, P. S. (2008). Managing the human resource in Indian SMEs: The role of indigenous realities. *Journal of World Business*, 43, 417-434.
- Schultz, T. W. (1960). The formation of human capital by education. *Journal of Political Economy*, 68, 571-583.
- Snell, S., & Dean, J.W., Jr. (1992). Integrated Manufacturing and Human Resource Management: A Human Capital Perspective. *Academy of Management Journal*, 35, 467-504.
- Ukko, J., Tenhunen, J., & Rantanen, H. (2007). Performance measurement impacts on management and leadership: Perspectives of management and employees. *International Journal of Production Economics*, 110, 39-51.
- Ulrich, D., Zenger, J., & Smallwood, N. (1999). *Results based leadership*. Boston: Harvard Business School Press.

Van Dierendonck, D. (2005). The construct validity of Ryff's Scales of Psychological Well-being and its extension with spiritual well-being. *Personality and Individual Differences*, 36, 629-643.

Villanova, P., & Bernardin, H. J. (1989). Impression management in the context of performance appraisal. In R. A. Giacalone & P. Rosenfeld (Eds.), *Impression management in the organization* (pp. 299-313). Hillsdale: Lawrence Erlbaum.

Wilson, J., & Western, S. (2000). Performance Appraisal: An obstacle to training and development? *Journal of European Industrial Training*, 24, 384-390.

Youndt, M. A., Snell, S. A., Dean, J. W., Jr., & Lepak, D. P. (1996). Human Resource Management, Manufacturing Strategy, and Firm Performance. *Academy of Management Journal*, 39, 836-866.

Appendix I

1. Recruitment strategies attempt to hold on to the best talent (5 = definitely true, 1 = definitely false)
2. Creation of new job position for new talents in my organization (5 = greatly in existence, 1 = none in existence)
3. How well developed recruitment strategies are able to attract talents? (5 = completely, 1 = not at all)
4. Generally, money spent in selecting a talent in a given job (5 = a great deal, 1 = very little)
5. Selecting a best candidate for a job (5 = very important, 1 = not at all important)
6. Time taken by your organization to select talents for critical & sensitive projects (5 = very long, 1 = very short)
7. Organization sponsors employees to attend workshops and conferences (5 = definitely true, 1 = definitely false)
8. Availability of training facilities to meet the requirements of my job (5 = greatly in existence, 1 = none in existence)
9. I am very keen to attend training programs (5 = completely, 1 = not at all)
10. To gain knowledge & qualification, organization sends employees to educational institutes (5 = definitely true, 1 = definitely false)
11. Appropriateness of the given training (5 = completely, 1 = not at all)
12. Time spent on for a training program by the organization (5 = very long, 1 = very short)
13. I consider appraisal process as an opportunity to overcome my weaknesses (5 = definitely true, 1 = definitely false)
14. On average in a year, organization appraises our performance more than once (5 = strongly agree, 1 = strongly disagree)
15. To what extent are your performance-related discussions useful? (5 = a great deal, 1 = very little)
16. Organization's performance appraisal system is (5 = excellent, 1 = poor)
17. Sources of collecting feedback about my performance in the organization are (5 = increased greatly, 1 = decreased greatly)
18. The aspects used in my performance appraisal (5 = strongly relevant, 1 = strongly irrelevant)
19. How many different kinds of career-oriented workshops you attended? (5 = very many, 1 = very few)
20. To what extent do you give importance to your career exploration? (5 = a great deal, 1 = very little)
21. To what extent you have undergone job rotation to gain cross-functional experience? (5 = a great deal, 1 = very little)
22. How confident you are that you reach your career goal? (5 = a great deal, 1 = very little)
23. How often you inform superiors about your interests, skills, and accomplishments? (5 = always, 1 = never)
24. To what extent the offered reward in your organization motivated you to participate in a team (5 = a great deal, 1 = very little)
25. Impact of reward on your competency (5 = increased greatly, 1 = decreased greatly)
26. How much importance given to reward your risk-taking? (5 = a great deal, 1 = very little)
27. Offering best employee award (5 = greatly in existence, 1 = none in existence)
28. How often does top management appreciate your work on doing something new? (5 = always, 1 = never)

Table 1. Sample characteristics

Variables	Number	%	Variables	Number	%
<i>Age, years</i>			<i>Tenure, years</i>		
< 30	191	40.47	< 15	309	65.47
30-40	111	23.52	15-25	48	10.17
> 40	147	31.14	> 25	42	08.90
Non-Respondents	23	04.87	Non-Respondents	73	15.47
<i>Gender</i>			<i>Number of firms</i>		
Male	429	90.89	Small (< 201)	21	31.34
Female	28	05.93	Medium (201-999)	12	17.91
Non-Respondents	15	03.18	Large (> 999)	34	50.75
<i>Education</i>			<i>Ownership</i>		
Under Graduate	336	71.19	Public sector	205	43.43
Post Graduate	112	23.73	Private sector	267	56.57
Non-Respondents	24	05.08			

Table 2. Factor structure of HR practices

Q.No	Factors/Items	Factor loadings					
		1	2	3	4	5	6
1. Reward Strategy							
24	To what extent the.....	0.52	0.28	0.22	0.31	0.25	0.03
25	Impact of reward...	0.61	0.09	0.17	0.18	0.10	0.16
26	How much importance...	0.58	- 0.03	0.12	0.09	0.09	0.22
27	Offering best.....	0.65	0.21	0.10	0.18	0.09	0.10
28	How often does.....	0.44	0.28	0.03	0.14	0.30	0.00
	Eigenvalue	7.50					
	Variance explained	26.78%					
	Cronbach alpha (α)	0.78					
2. Career-oriented training							
7	Organization sponsors	0.06	0.63	0.04	0.16	0.01	0.09
11	Appropriateness of.....	0.13	0.51	0.19	0.23	0.09	0.30
12	Time spent.....	0.13	0.48	0.19	0.12	0.02	0.21
19	How many different.....	0.31	0.37	0.34	0.26	0.10	0.17
	Eigenvalue	1.61					
	Variance explained	5.77%					
	Cronbach alpha (α)	0.70					
3. Performance appraisal							
13	I consider appraisal...	0.00	0.18	0.43	0.15	0.38	0.13
14	On average in a ...	0.10	0.07	0.50	0.18	0.04	0.14
15	To what extent are ...	0.05	- 0.01	0.40	0.10	0.35	0.14
16	Organization's performance..	0.20	0.26	0.58	0.08	0.23	0.02
18	The aspects used.....	0.23	0.17	0.38	0.27	0.17	0.23
	Eigenvalue	1.55					
	Variance explained	5.54%					
	Cronbach alpha (α)	0.71					
4. Recruitment strategy							
2	Creation of new job	0.14	0.09	0.13	0.39	0.19	0.11
3	How well developed.....	0.16	0.17	0.08	0.58	0.11	0.18
4	Generally, money	0.21	0.23	0.07	0.42	0.05	0.18
5	Selecting a best	0.10	0.23	0.25	0.50	0.09	0.28
	Eigenvalue	1.18					
	Variance explained	4.21%					
	Cronbach alpha (α)	0.68					

Table 2. Factor structure of HR practices (continued)

Q.No	Factors/Items	Factor loadings					
		1	2	3	4	5	6
5. Career management							
1	Recruitment strategies...	0.05	0.09	0.18	0.16	0.31	0.05
20	To what extent do.....	0.11	0.04	0.09	0.16	0.41	0.27
21	To what extent you.....	0.08	- 0.02	0.06	0.01	0.37	0.12
22	How confident	0.23	0.08	0.20	0.09	0.35	0.13
23	How often you....	0.39	0.33	0.13	0.27	0.39	0.17
	Eigenvalue	1.08					
	Variance explained	3.86%					
	Cronbach alpha (α)	0.60					
6. Performance-oriented training							
6	Time taken by	0.07	0.08	0.08	0.16	0.16	0.36
8	Availability of.....	0.08	0.35	0.02	0.15	0.12	0.49
9	I am very keen	0.07	0.13	0.15	0.22	0.11	0.35
10	To gain knowledge.....	0.08	0.30	0.09	0.18	0.11	0.32
17	Sources of collecting.....	0.18	0.05	0.37	- 0.05	0.23	0.37
	Eigenvalue	1.06					
	Variance explained	3.78%					
	Cronbach alpha (α)	0.60					

Table 3. Results of confirmatory factor analysis

No	MODEL	ψ^2	df	AIC	NNFI	CFI	NFI	SRMR
1	Six-factor model	580.46	335	746.83	0.97	0.98	0.95	0.046
2	Five-factor model	621.36	340	785.65	0.97	0.97	0.94	0.047
3	Four-factor model	663.69	344	830.37	0.97	0.97	0.94	0.049
4	Three-factor model	714.44	347	898.87	0.96	0.97	0.94	0.050
5	Two-factor model	741.65	349	941.19	0.96	0.96	0.93	0.051
6	One-factor model	888.49	350	1160.98	0.95	0.95	0.92	0.056

Note: ψ^2 - Likelihood-ratio chi-square, df- Degrees of freedom, AIC- Akaike Information Criterion, NNFI- Non-Normed Fit Index, CFI- Comparative Fit index, NFI- Normed Fit Index, SRMR- Standardized Root Mean Square Residual.

Table 4. Correlation between HR factors

Factors	1	2	3	4	5	6
1 Reward Strategy	1.00					
2 Career-oriented training	0.69**	1.00				
3 Performance appraisal	0.64**	0.74**	1.00			
4 Recruitment strategy	0.66**	0.79**	0.69 [†]	1.00		
5 Career management	0.82**	0.76**	0.79**	0.74 [†]	1.00	
6 Performance-oriented training	0.62 [†]	0.86**	0.75 [†]	0.77 [†]	0.79 [†]	1.00

** p < 0.05; [†] p < 0.1

Table 5. Regression between HR factors and employee's characteristics

Variables	RW	COT	PA	RS	CM	POT
Age	0.21**	0.04	0.23*	0.08	0.26*	0.25*
Gender	0.02	0.07	0.09 [†]	0.07	0.11**	0.12**
Education	0.03	0.08	0.05	0.00	0.04	0.00
Rank	0.17*	0.13**	0.15**	0.10	0.06	0.01
Tenure	-0.04	0.01	-0.09	-0.05	-0.18**	-0.17 [†]

Note: Standardized beta values are shown. * $p < 0.01$, ** $p < 0.05$; [†] $p < 0.1$
 RW- Reward Strategy, COT- Career-oriented training, PA- Performance appraisal, RS-Recruitment strategy,
 CM- Career management, POT- Performance-oriented training

Table 6. Regression between HR factors and organizational size and ownership

Variables	RW	COT	PA	RS	CM	POT
Size	-0.16*	-0.09	-0.11 [†]	-0.08	-0.06	-0.15**
Ownership	-0.16*	-0.29*	-0.11 [†]	-0.24*	-0.02	-0.04

Note: Standardized beta values are shown. * $p < 0.01$, ** $p < 0.05$; [†] $p < 0.1$
 RW- Reward Strategy, COT- Career-oriented training, PA- Performance appraisal, RS-Recruitment strategy,
 CM- Career management, POT- Performance-oriented training