Implementation of HRD Practices - A Study of Manufacturing Sector in Punjab

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Abstract

Human Resource Development (HRD) has assumed significance in recent past for all types of businesses. Managements today believe in using HRD practices for incorporating changes in organizations. These practices aim at changing the behaviour of employees, improvement in skills and competencies and enhancing performance. Further, these facilitate individual and team development as well as contribute to performance and work process improvement. Present study is undertaken to analyse the implementation of HRD practices besides identifying the factors affecting them.

Introduction

Industrialization is a process involving social and economic change which leads to the transformation of an economy from an agrarian society to an industrialized one. Kuznet (1948) termed industrialization as the permanent growth of the proportion of the non-agricultural sectors within the national economy running with considerable increase of the total industrial production as well as with the spread of up-to-date technology. As far as industrialization in India is concerned, like other developing nations non-industrialization model was followed under colonial rule. However, after independence, Indian state intervention in industrial development remained extensive. But economic reforms initiated in 1980's and 1990's changed the scenario as liberalization led to a relaxation regime in industrial and financial policies. Globalization further diluted the restrictions on import and export thereby speeding up economic growth.

Among all the major components for promoting industrialisation and technological change, human capital is seen as a prime factor. Human resources are widely accepted by the

organizations as the biggest source of competitive advantage with a capability of converting all the other resources in to product/service. Effectiveness of human resources further depend on the Human Resource Development (HRD) climate that prevails in the organizations. Human Resource Development (HRD) is concerned with the provision of learning and development opportunities that support the achievement of business strategies and improvement of organizational, team and individual performance (Armstrong and Baron, 2002). Further, HRD practices are aimed at creating an environment which can facilitate changes in systems, structures, processes etc. In this study an attempt has been to compare and analyse the HRD practices across manufacturing sector in Punjab. The objectives of the study are:

1. To identify the dominant variables affecting selected HRD practices.
2. To find out the industries having sound HRD practices in Punjab.
3. To determine the relationship between dominant variables.

For accomplishment of these objectives, the study has been divided into four sections. First section is introductory in nature while section II contains review of literature. Database and Methodology has been depicted in section III followed by analysis of selected HRD practices in section IV and the entire discussion is summed up in section V.

Review of Literature

Rao (1986) brought out in his study that HRD is a process and not merely a set of mechanisms and techniques such as performance appraisal, counseling, training, organizational development practices. These techniques are rather used to initiate, facilitate and promote this process in a continuous way. **Monappa (1990)** carried out his study in Bharat Electronis Ltd. (BEL), a public sector electronics unit which highlighted various initiatives undertaken to improve human resource development in organization viz. setting up of several bipartite committees like work committee, canteen managing committee, labour welfare fund committee

and death relief funds committee. **Aileni (1995)** in her study found out the relationship between organizational climate and job satisfaction of the lower level managers in a public sector undertaking in the business of power in the state of Andhra Pradesh. The study revealed that there was a difference in the priority given to various organizational variables by the satisfied and dissatisfied respondents. Satisfied group gave top ranks to interpersonal relationship, risk taking and management of rewards whereas the dissatisfied group accorded top priority to supervision, communication and decision-making. **Budhwar (2000)** conducted a study in 137 Indian firms in manufacturing sector to identify the main contingent variables and national factors that influence Indian human resource management policies and practices. Results revealed that organizations in the mature life cycle stage are likely to adopt an annual career development interview scheme for the training and development for their employees whereas the ones in the declining life-cycle stage are likely to pursue recruitment of their clerical and managerial staff as apprentices. Among the national factors, the three institutions of labour laws, trade unions, educational and vocational training significantly influenced human resource management policies and practices. **Pillai (2000)** studied the influence of HRD climate on the learning orientation of bank employees and brought out a positive relation between HRD mechanisms and the level of learning orientation. **Purang (2006)** in her study compared the human resource development climate perceptions of middle-level managers in five Indian organizations consisting of two private sector, two public sector and one multinational organization. Analysis revealed that human resource development climate scores of the two private organizations and the MNC were significantly higher than the two PSUs.

Mufeed (2006) examined the application of concept of human resource development in hospitals with special reference to Shar-i Kashmir Institute of Medical Science (SKIMS) Srinagar. Superior-subordinate relationship as a dimension of HRD climate among the managerial cadre, exposed a good relationship of subordinates with the superiors. However,

boss-subordinate relationship among subordinate cadre was found to be dissatisfactory. **Bandgar (2010)** conducted a study on HRD management in selected cooperative industrial units in Kolhapur district. In total 9 units were selected by purposive sampling including 3 units from sugar sector, 3 from milk sector and another 3 from spinning sector. The study concluded that by and large all the HRD mechanisms are being used by the organizations. Induction training and the training and development are two HRD mechanisms that existed in all the organizations. A series of measures to improve HRD climate in cooperatives were also given. **Rita (2013)** studied Human Resource Development practices in northern zone of Life Insurance Corporation (LIC) and their impact on productivity of employees. The variables selected for study were HRD climate, training and development, performance appraisal, quality of working life, employee counselling, compensation and reward system. Study concluded that various HRD mechanisms in LIC are average, accounting for low degree of satisfaction among employees and the demographic variables affected the employee's perception about the HRD practices.

Database and Methodology

In order to fulfil the above mentioned objectives, we have relied upon both the secondary and primary data. Five dominant manufacturing industries in Punjab were identified using the Annual Survey of Industries data (2008-09) published by Central Statistical Organization (CSO), Ministry of Statistics and Programme Implementation (MOSPI). National Industrial Classification (NIC), 2008 was used for inter-industry comparison which was done on the basis of five parameters viz. number of factories, total output, invested capital, number of persons engaged and wages and salaries. To obtain the first hand information with respect to HRD practices, we have randomly taken 16 units from five dominant industries. Further, questionnaire was administered randomly to five supervisor/officer/executive level employees in each of the selected units making the sample size 80. The five respondents were selected so

as to have an authentic feedback of HRD practices. Different variables (49) selected after reviewing relevant literature, were included in questionnaire and 7 point scale was used. HRD practices selected for the study were performance appraisal systems, career development and training and development. To find out the effective/dominant variables contributing to the mentioned HRD practices, factor analysis technique is applied. The first principal component analysis is the guiding principle for determining individual or group indicator weights in the inter-correlation between them; high weight being assigned to those having higher contribution and vice-versa. This method, at the same time bypasses the problem of multicollinearity. The components analysis produces components in descending order to their importance therefore 'First Principal Component' factor can be used as an index for assigning weights. The statistical model in terms of First Principal component can be expressed as:

$$P_{1=} \sum_{j=1}^{n} a_{j1} Z_j$$

where P_1 = First Principal Component, a_{j1} = Factor loading of the j^{th} variable and 1 indicates the factor number and Z_j = Standardized j^{th} variable and is expressed as follows :

$$Z_j = \frac{X_j}{S.D.X_j} = \frac{\text{Original Variable}}{\text{Standard deviation of the variable}}$$

In order to authenticate the responses, weighted mean is calculated where in the communalities derived from factor analysis are taken as weights and x is the response.

$$\bar{x} = \frac{\sum_{i=1}^{n} w_i x_i}{\sum_{i=1}^{n} w_i},$$

An endeavour has been made to find out the correlation among the top factors as identified by use of factor analysis using multiple correlation.

Dominant industries and Factors affecting HRD practices

Industries in Punjab were compared on the basis of five parameters (mentioned earlier) as industry doing well in terms of one parameter may not be doing well in terms of others. Table 1 depicts the five dominant manufacturing industries in Punjab.

Table 1: Dominant Industries in Punjab

Sr.No	Industry	NIC Code
	Manufacture of grain mill products, starches and starch products industry	106
	Spinning, weaving and finishing of textiles industry	131
	Manufacture of basic iron and steel	241
	Manufacture of transport equipment n.e.c. industry	309
	Manufacture of knitted and crocheted apparel industry	143

For the purpose of analysis, 49 variables (identified after review of literature) affecting selected HRD practices were selected and are given in annexure 1. Two tests, Kaiser Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of approximation have been applied to check if factor analysis can be applied or not. The Kaiser- Meyer-Olkin test measure of sampling adequacy is a statistic that indicates proportion of variance in variables that might be caused by underlying factors. Values greater than 0.50 generally indicate that a factor analysis may be useful with the data. It is evident from table 2 that the output of KMO test is favourable. Bartletts's test of sphericity tests the hypothesis that correlation matrix is an identity matrix, and indicate that variables are unrelated and therefore unsuitable for structure detection. Small values like 0.00 < 0.05 (as depicted in table 2) indicate that a factor analysis can be useful with the data. High value of Chi square with .000 significance level implies that correlation matrix is not an identity matrix which further reasserts that factor analysis is appropriate. Both these tests permit the use of factor analysis for data reduction in our case for all the practices.

Table 2: KMO and Bartlett's Test

		Performance Appraisal	Career Development	Training and Development
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.501	0.571	0.71
Bartlett's Test of Sphericity	Approx. Chi-Square	772.245	298.768	185.095
	Df	253	105	55
	Sig.	0	0	0

Results of factor analysis applied on the primary data collected in context to selected HRD practices are shown in table 3. Further, twenty three variables affecting performance appraisal systems were examined and it becomes evident from the table that seven factors (having eigen values greater than 1) namely comments from mentors or coaches (0.881), assessment centres (0.836), 360-degree appraisal (0.828), development support by managers (0.802), potential assessment criteria (0.801), methods and approach used by the employee (0.791) and the potential of employees for the future assignments (0.780) together accounted for 72.05 percent of variance.

Similarly, in case of career development, five variables out of fifteen had eigen values more than 1 and contributed 63.30 percent to the total variance. These significant variables include counselling for progress along career path (0.839), succession planning (0.779), work environment (0.733), preferred successor (0.709) and support of HR department for individual career plan (0.684). As far as training and development is concerned, eleven variables are examined and it becomes clear (table 3) that only four variables namely evaluation of training process (0.727), implementation of training acquired (0.717), involvement of top and middle management (0.698) and development of managerial competencies (0.665) experienced eigen values greater than 1. These dominant variables account for 64.33 percent of variance.

Table 3 : Total Variance Explained

	Performance Appraisal						Career Development						Training and Development					
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Initial Eigenvalues			Extraction Sums of Squared Loadings			Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.896	25.637	25.637	5.896	25.637	25.637	3.61	24.067	24.067	3.61	24.067	24.067	3.232	29.381	29.381	3.232	29.381	29.381
2	2.859	12.43	38.067	2.859	12.43	38.067	1.89	12.597	36.664	1.89	12.597	36.664	1.605	14.587	43.968	1.605	14.587	43.968
3	2.029	8.82	46.887	2.029	8.82	46.887	1.581	10.541	47.205	1.581	10.541	47.205	1.21	11.001	54.969	1.21	11.001	54.969
4	1.777	7.724	54.611	1.777	7.724	54.611	1.335	8.9	56.105	1.335	8.9	56.105	1.03	9.367	64.335	1.03	9.367	64.335
5	1.538	6.687	61.298	1.538	6.687	61.298	1.08	7.2	63.304	1.08	7.2	63.304	0.957	8.701	73.036			
6	1.418	6.163	67.461	1.418	6.163	67.461	0.898	5.985	69.289				0.752	6.839	79.876			
7	1.058	4.598	72.059	1.058	4.598	72.059	0.859	5.725	75.015				0.569	5.17	85.046			
8	0.993	4.318	76.377				0.794	5.293	80.308				0.521	4.739	89.785			
9	0.867	3.77	80.147				0.661	4.407	84.715				0.457	4.153	93.938			
10	0.779	3.388	83.535				0.553	3.684	88.399				0.358	3.252	97.19			
11	0.668	2.905	86.44				0.484	3.229	91.629				0.309	2.81	100			
12	0.584	2.539	88.979				0.437	2.915	94.544									
13	0.459	1.997	90.976				0.413	2.753	97.297									
14	0.423	1.841	92.817				0.254	1.694	98.991									
15	0.391	1.699	94.516				0.151	1.009	100									
16	0.301	1.311	95.827															
17	0.233	1.012	96.839															
18	0.227	0.988	97.827															
19	0.188	0.817	98.644															
20	0.117	0.51	99.154															
21	0.079	0.342	99.496															
22	0.078	0.338	99.835															
23	0.038	0.165	100															

Extraction Method: Principal Component Analysis.

As mentioned earlier, the communalities derived from factor analysis were taken as weights to calculate weighted mean for all the five industries (table 4). It is evident from the table that out of all the HRD practices selected for study, training and development was being implemented most effectively followed by performance appraisal and career development. Further, inter industry comparison revealed that Spinning, weaving and finishing of textiles industry (131) was having the most effective HRD practices followed by Manufacture of transport equipment n.e.c. industry (309) and Manufacture of knitted and crocheted apparel industry (143).

Table 4: Weighted Mean values for five dominant industries

Industry Codes / HRD Practices	106	131	241	309	143	$\overline{X}_w$
	$\overline{X}_{w1}$	$\overline{X}_{w2}$	$\overline{X}_{w3}$	$\overline{X}_{w4}$	$\overline{X}_{w5}$	
Performance Appraisal	5.38	5.59	5.40	5.66	5.37	5.48
Career Development	5.06	5.61	4.95	5.51	5.24	5.27
Training and Development	5.61	5.92	5.39	5.82	5.75	5.70
$(\overline{X})$	5.35	5.71	5.25	5.66	5.45	

Source : Primary Data

Factor analysis revealed that sixteen variables were having maximum influence on the selected HRD practices. In order to find out the relation between the dominant variables, multiple correlation was calculated (table 5). It is clear from the table that potential for future assignments, support of HR department for individual career plan, involvement of top and middle management, development of managerial competencies, measurement of potential in terms of competencies and support for development are the are the factors having maximum compatibility with the remaining factors. Managers should hence emphasize on these factors while implementing HRD practices.

Table 5

Correlation among dominant variables

		comment	meusemp	devsup	potmeco	potfutas	asscent	degree	askprfr	hrsupp	coulnge	carenvr	succpln	devmrgc	topmgt	trgeva	linemgr
comment	Pearson Correlation	1															
meusemp	Pearson Correlation	-0.004	1														
devsup	Pearson Correlation	.576**	0.019	1													
potmeco	Pearson Correlation	-0.073	0.048	0.106	1												
potfutas	Pearson Correlation	0.199	.231*	0.176	.244*	1											
asscent	Pearson Correlation	-0.04	0.038	.233*	0.161	-0.161	1										
degree	Pearson Correlation	-0.19	0.133	0.013	0.19	0.004	.240*	1									
askprfr	Pearson Correlation	-0.011	0.015	-0.098	-0.059	-0.05	-0.154	0.075	1								
hrsupp	Pearson Correlation	0.215	0.166	0.053	.240*	.335**	0.172	0.009	-0.133	1							
coulnge	Pearson Correlation	.244*	0.13	0.094	.273*	0.171	0.138	-0.124	-.226*	.509**	1						
carenvr	Pearson Correlation	0.116	0.039	0.057	.243*	0.174	0.082	-0.014	0.073	0.199	.459**	1					
succpln	Pearson Correlation	-0.074	0.058	0.122	0.121	0.092	.303**	0.206	-0.099	-0.109	-0.06	.323**	1				
devmrgc	Pearson Correlation	0.173	0.111	0.169	.293**	0.203	0.051	.279*	0.097	.422**	.284*	.279*	0.083	1			
topmgt	Pearson Correlation	0.16	0.058	0.119	0.212	.236*	0.148	.223*	-0.022	.392**	.272*	0.216	0.025	.618**	1		
trgeva	Pearson Correlation	.260*	-0.004	.309**	.254*	0.181	0.137	-0.115	0.01	0.16	0.053	-0.139	-0.171	.332**	.296**	1	
linemgr	Pearson Correlation	0.066	.250*	0.017	0.152	0.075	.249*	0.161	-0.127	0.203	.355**	.338**	0.127	.297**	.264*	0.118	1

** Significant at 1%

* Significant at 5%

Conclusions and Recommendations

As discussed earlier, human resources are acknowledged as the most significant component for industrial growth and development and their development is taken on priority these days. HRD practices hence are aimed at building a development culture in an organization through improvement of human quality. Analysis carried out in section III clearly indicates that comments from mentors and coaches and approaches used by an employee in carrying out the job should be considered while conducting performance appraisals as these provide an insight into employee's capabilities. Managers/supervisors should extend full support to the subordinates for further development and enhancing their skills. Not only this, assessment criteria should be clearly communicated and performance appraisal should include feedback from all those connected with the employee in the work setting.

Career development programs should ensure that proper counselling is provided to the employees and career plans should be developed keeping in mind the work environment. Moreover HR department should be supportive enough to ask individual about their preferred successor. Further, training and development process should be aimed at development of competencies. Involvement of top management can go a long way in increasing the effectiveness of training process. Managers should be supportive enough to provide a climate where trainees can implement the new skills learned through training. Training process should be modified at the regular intervals based on the results of continuous evaluation. If implemented effectively, HRD practices facilitate development of a strong culture in an organization which further helps in building a competitive edge.

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ANNEXURE 1

Variables selected for studying HRD practices in manufacturing industries of Punjab

Sr.No	Variable
1	Quality of personal objective setting for individual employees in your organization is excellent.
2	Ratings by appraisers are sometimes seen as based on subjective judgments like “not upto the mark”.
3	Evidence of performance is gathered throughout the year.
4	Evidence from project work (extra assignments) are included in performance appraisal.
5	Comments from mentors or coaches are included in performance appraisal.
6	Employee’s personal efforts to become more proficient in his/her assignment and to prepare for more responsibility are considered.
7	Comments on the methods and approach used by the employee in performing the job are evaluated.
8	Low performance is highlighted, but development support is also defined.
9	The appraisal system is maintained by monitoring its operation through periodic evaluation.
10	The critical incidences during the performance of job are recorded.
11	Appraisers are selected carefully by using a representative sample of people most critical to the ratee and who had the greater opportunity to observe his or her performance.
12	Potential assessment criteria is based mostly on an employee’s process skills.
13	Potential of the employees is measured in terms of the competencies required to achieve the target level of performance in a particular job or at a particular level in company.
14	The potential of employees for the future assignments is considered.
15	The promotions are given on the basis of current performance and consideration is also given to the potential of employee.
16	Management believes in developing suitable employee base for succession planning.
17	Tests and exercises, assignments are given to employees to assess their competencies and on the job behaviour and potential to take higher responsibilities.
18	Potential assessment identifies training needs, provide guidance on possible directions in which an individual's career might go, and indicate who has potential for promotion.
19	Assessment centres provide good opportunities for indicating the extent to which candidates match the culture of the organization.
20	360-degree appraisal is effective in identifying and measuring interpersonal skills, customer satisfaction, and team-building skills.

Sr.No	Variable
21	Behaviourally Anchored Rating Scales (BARS) method is a relatively new technique which combines the graphic rating scale and critical incidents method.
22	Management By Objectives (MBO) is to create empowered employees who have clarity of the roles and responsibilities expected from them and understand their objectives.
23	Appraisal systems should include self-analysis, employee input into evaluations, feedback, and goal setting by workers.
24	Management is providing resources and linkages which ensure maximum person-job match, skills acquisition, and continual improvement.
25	Employees are allowed to do self-assessment to determine their career interests, values, aptitudes, and behavioral tendencies.
26	Employees are made aware of the existing and future opportunities and growth avenues that can be pursued and achieved within.
27	Your intentions to stay in the current organization are asked.
28	You are asked about your preferred successor.
29	Your organization's objectives are aligned with individual employees' vision of career success.
30	There is joint ownership and shared responsibility in your organization to create new ways for employees to grow and contribute.
31	HR department in the organization supports individual career plan through movement along the career path with job rotations, advancements, problem solving assignments.
32	Counseling is provided to the employees to plan their progress along their career paths.
33	Career plans for employees are developed keeping in mind the work environment.
34	Career development program can accelerate workforce adaptation to change, improve cost-effectiveness of human resource decisions.
35	Career Development means development both in horizontal and vertical direction.
36	Career Planning ensures higher loyalty and productivity from employees.
37	Efforts of career planning and development culminate into succession planning at highest levels in the organization.
38	Career planning facilitates in retaining and attracting people from different cultures thus enhancing cultural diversity.
39	Human relations competencies are adequately developed in your organization through training in human skills.
40	Training has developed managerial capabilities
41	Training process in your organization has the commitment and support of top management and active involvement of the middle management.

Sr.No	Variable
42	Training has enabled the executive or manager to leverage his or her personal skills more effectively.
43	Management in your organization believes that smarter, better trained managers increase chances of success.
44	The training process is regularly evaluated by empirical, evidence based feedback.
45	Employees get the right kind of climate to implement new ideas and methods acquired during training.
46	Training in specific performance management, how to manage and facilitate meetings, work/life balance issues, safety in the workplace, crisis intervention etc has increased efficiency of managers .
47	Training has increased loyalty of the managers in the demanding global business hours, language barriers, differing work ethics and uncertainties.
48	Effective training emphasizes what the employee has done well and how those behaviors can be continued into the future.
49	Leadership training if given to managers contributes to thinking and planning more strategically, to manage risk more effectively and to create and communicate vision .