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## RESEARCH ARTICLE

### HRD MECHANISMS IN PUMP INDUSTRY

**\*Dr. Sangeetha, P.**

Department of Management Studies, Ahaila School of Management, Palakkad, India

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##### \*Corresponding author:

**Dr. Sangeetha, P.**

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#### ABSTRACT

Human Resource Development (HRD) is a continuous process of enabling and ensuring the development of employees in a systematic and planned way. No organization can grow and survive in the present day environment without growth and development of its people. Developing the human resource by upgrading their skills, extending their knowledge and competencies would lead to organizational development. Human Resource is the most important and valuable resource of every organization. Dynamic people can build dynamic organizations. Efficient employees can contribute to the effectiveness of an organization. Competent and motivated employees can make things happen and enable an organization to achieve its goal. Therefore, organizations should continuously ensure that the dynamism, competence, motivation and effectiveness of the employee always remain high. The present study is an attempt to contribute to a better understanding of the HRD climate prevailing in submersible manufacturing organizations. The general climate, HRD Mechanisms and OCTAPAC culture are better in submersible pump organizations.

#### INTRODUCTION

Human Resource is the most important and valuable resource of every organization or institution; which constitute the employees of the organization/institution. Dynamic people can build dynamic organizations. Efficient employees can contribute to the effectiveness of an organization. Competent and motivated employees can make things happen and enable an organization to achieve its goals. Therefore, organizations should continuously ensure that the dynamism, competence, motivation and effectiveness of the employee always remain high. Human Resource Development (HRD) is a continuous process of enabling and ensuring the development of employees in a systematic and planned way. No organization can grow and survive in the present day environment without growth and development of its people. Developing the human resource by upgrading their skills, extending their knowledge and competencies would lead to organization development. The effectiveness and non-effectiveness with which various kinds of human resources are co-ordinate and utilized, which is responsible for an organization's success or failure. Therefore, HRD is the key to ensure the utilization of intellectual, technological and entrepreneurial skills of the workforce of an organization. HRD in the organizational context may be defined as a process by which the employees of an organization are helped in a continuous and planned manner to develop the individuals to realize their potentials as individuals and to utilize it to the maximum extent; perform their assigned jobs better; handle future roles effectively; maintain a high motivation level at all times, strengthen superior-subordinate relationships and also the team spirit, among different work

teams achieve inter – team collaboration, climate development and the overall development of the health of the organization. Health organizations have developed requisite belief in Human Resource Development, and a HRD program focuses upon the following essential components:

1. Performance appraisal,
2. Training and Development
3. Promotion,
4. Career Development
5. Compensation and Reward
6. Organizational Development
7. Quality of Work life
8. Industrial relation
9. Welfare Measures

#### Need of the study

Human resource is considered as the backbone of any economic enterprise, be it public, private or co operative. The human resource is by far the most dynamic and important resource of the various kinds of resources that are needed to move the wheels of any economic activity. It was believed earlier that economic development of any nation depends upon the natural resources, the rate of capital formation and the technological progress. In recent years, the economists have added economic resources besides land, capital and technology as a key factor on the extent use of human resource. Basically, resource components presents its unique characteristic of being the resources of all resources which is harnessed to begin an

economic enterprise. The human resource of an enterprise is the most important wealth producing and most delicate resource and its management is an extremely difficult exercise because of changing attitude, aspirations and motivations. Still human resource development faces various constraints in the organizational context. Hence, the researcher would like to examine the HRD mechanisms operating in manufacturing units of pump industries in Coimbatore city. As the pump industries in Coimbatore city is involved in manufacturing pumps, submersible pumps, and other forms of automotive pumps by involving many employees, the researcher felt it is advisable to proceed the research in HRD mechanisms adopted by the pump industries in Coimbatore city.

### Statement of the problem

There are certain important factors such as cut throat competition, quick challenges, communication explosion and conflicts which influence every business today, irrespective of its size and place in the globe. The pump industries are no exemption of this rule. Therefore "survival of the fittest" the old adage is so apt in today's business. In order to survive and grow, every organization must utilize its resources in the most effective and efficient manner. But out of the various resources used, human resources is the only elastic factor. Therefore Human Resource Development and Management is the key to success of any organisation. The HRD climate of an organization plays an important role in ensuring the competency, motivation, and development of its employees. The HRD climate can be created using appropriate HRD systems and leadership styles of top management. The HRD climate is both a means to an end as well as an end to itself. HRD climate is the perceptions the employee can have on the developmental environment of an organization. HRD climate is an integral part of the organizational climate. Hence, the researcher would like to examine the HRD mechanisms operating in manufacturing units of pump industries in Coimbatore city; since the pump industries in Coimbatore city are involved in manufacturing pumps, submersible pumps, and other forms of automotive pumps by involving many employees, the researcher felt it is advisable to proceed with the research in HRD mechanisms adopted by the pump industries in Coimbatore city.

In the light of these aspects the following question arises:

1. What is the employees perception towards the management's contribution to employees development in pump manufacturing industry..
2. What are the employee attitude regarding the existing HRD Mechanism.
3. How much is the employees satisfied towards the HRD mechanism followed in pump manufacturing industry

### Objectives of the study

The following are the important objectives of the present study.

1. To study the employees perception towards the management's contribution to employees development in submersible pump manufacturing industry.
2. To study the employee's attitude regarding the existing HRD Mechanism followed in submersible pump manufacturing industry.

3. To analyze the existing HRD mechanism through OCTAPACE Model.
4. To measure the satisfaction level of the employees towards the HRD mechanism in the organization.
5. To suggest strategies for the implementing of effective HRD Mechanism.

## MATERIALS AND METHODS

The methodology for the present study on the title "An analysis of the hrd mechanisms employed by the submersible pump manufactures with special reference to Coimbatore city" is discussed under the following headings

**Source of Data:** The study was based on both primary and secondary data. In the present study, both primary and secondary data were collected systematically. For collecting primary data, a sample of 500 employees was selected and first hand information relating to management attitude, HRD mechanism, and level of satisfaction of the selected sample respondents towards HRD mechanism in the study area was collected.

**Selection of the Universe:** Today 60% of India's requirements of domestic and agricultural pump sets are made in Coimbatore. The Southern India Engineering Manufacturers' Association (SIEMA) (established in 1952) has 215 members, most of whom manufacture motors and pumps of various types. Indian pumps are made according to the specifications of the Bureau of Indian Standards (BIS). Coimbatore (with 1.2 million populations), The major places of the submersible pump manufacturing industries are situated in the following places of Coimbatore city and hence proper attention was given to cover all the places and the respondents were classified equally.

Table 1. Samples selected for the study

S.No.	Location	No. of Respondents
1	Avinashi Road	100
2	Kallapatti	100
3	Saibaba colony	100
4	Lakshmi puram	100
5	Ganapathy	100
	Total	500

Source: Based on SIEMA samples chosen from registered pump manufacturers

**Sample Design:** Research design is the master plan of any research study focusing on structure, procedure and data analysis of the research. There are three designs to choose from Dependent on the type of present study, they are exploratory, descriptive and casual research designs given the limited amount of information on the employees opinion towards the various HRD mechanisms' Size of the sample refers to the number of items to be selected from the universe to constitute a sample. A sample size of 500 workers were selected for the study.

**Data Collection Instruments:** The data used for the present study is primary in nature. The primary data was collected through the field survey during the period January 2013 to April 2013. Surveys are an efficient means of getting information's from a large sample of consumers by asking questions and recording responses. Several types of methods of data collections were considered, considering the complexity of the survey, time and funding budget the survey method was finally adopted.

**Period of Study:** The study covered the time period of (2010 - 2013) and the information from the respondents were gathered during 2013 January – April 2013

**Tools of Analysis:** In order to analyze the data on the basis of the objectives of the study the following statistical tools were applied.

1. Frequency Analysis,
2. Analysis of Variance (ANOVA),
3. Factor Analysis,
4. Multiple Regression Analysis,
5. Discriminant Analysis,
6. Chi –Square Test

#### Limitations of the study

1. The study was based on primary data. Hence the inadequacies of primary data hold here.
2. The study covered only the selected Submerge Pump Manufacturing Industries involved in business in group or in individual.
3. The study is applicable only to the registered Submerge Pump Manufacturing Industries in Coimbatore.

#### Chapter scheme

##### The thesis is organized into six chapters

- The first chapter on Introduction includes need for the study and objectives of the study. Importance of the study, Statement of the problem, Objectives of the study,
- The second chapter deals with the review of Literature collected from various journals and magazines related to HRD mechanism followed.
- The third chapter deals with the profile of the study area of the research inclusive of the profile of the company along with the functions of HRD department, its benefit to the work force, etc. This chapter also details the theoretical support of HRD for this research study.
- The fourth chapter includes the Analysis and Interpretation of the study with the help of relevant statistical tools
- The fifth chapter presents the Key findings and conclusions are recapitulated. Based on the findings, suggestions have been proposed for improving the climate and suitable HRD mechanisms in the organization.

#### Research Analysis and Interpretations

##### Research problem

Over the last few years, pump industries has become one of the fastest growing sectors in the Indian economy. However, over the last half decade, the Indian consumer market has seen a significant growth of various production, manufacturing, automobile, construction industries have grown in number and all those industries need to have submersible pumps for their water consumption. The industry is evolving with lot of human resources from the base level activity to the final stage. Thus the industry gains importance in understanding the HRD mechanisms that are operated.

**Research questions:** The various factors viz, age, gender, education, monthly income has influence over the HRD mechanisms' operated.

1. The dominating factor of OCTAPACE has influence over the HRD mechanisms'.

#### Formulation of hypothesis

Hypotheses have been formulated from the components which were formed to be gaps in the review of literature collected. Since the study is exploratory in nature the hypotheses have been formulated in null form.

- There is no association between the clustered groups of factors over the various HRD assessing mechanisms' factors.
- There is no association between the age of the employees over the various HRD assessing mechanisms' factors.

In the second phase was a field survey which was a non-experimental survey methodology to gather the data which are necessary to test the relationships between the constructs listed in the previous section of hypothesis formulation.

A survey research design was considered appropriate for several reasons.

1. The use of a survey is advised for collecting perceptual data from a large population.
2. Survey data are easily quantifiable.
3. Several measures were developed by previous researches for the survey design. Hence, it was decided to conduct field survey to study the HRD mechanisms operated in the submersible pump industries in Coimbatore city.

**Sampling frame:** The sampling frames are source list a subset of the defined target population from which sample is realistically for research. The sampling frame for the present research study would be comprised of adult employees in coimbatore city.

**Sampling unit:** This is the most important step in sampling design before selecting a sample. Sampling unit may be a geographical one such as a state, district, village, etc. The sample subjects for the present research are the employees belonging to different companies manufacturing submersible pumps, who are above 25 years old, the purpose of selecting stratus is

1. To ensure that the sample had similar representation (homogeneous) in terms of respondent profile.
2. Since the prior studies conducted in India have made the research by including many employees who have employed in the submersible pump industries

**Sampling technique:** The researcher has adopted stratified random sampling technique for the present study. This method is used in exploratory research where the researcher is interested in getting a selected approximation of the truth as the name implies the sample is selected by making Coimbatore city divided into strata and the sample is selected through convenience. This non-probability method is often used during

preliminary research effort to get a gross estimate of the results, without incurring the cost or time required to select a random sample. The classification of strata's of Coimbatore city is shown in the Table 1.

**Sampling size:** This refers to the number of items to be selected from the universe to constitute a sample. Sample size has direct bearing on how accurate the findings are relative to the true values in the population. Therefore determining an appropriate sample size for this research was considered to be a paramount importance. An optimum sample size fulfills the requirements of efficiency, representativeness, reliability and flexibility. The major places of the submersible pump manufacturing industries are situated in the following places of Coimbatore city and hence proper attention was given to cover all the places and the respondents were classified equally.

**Survey instrument:** The respondents were administered using a structured non-disguised questionnaire (shown in Appendix – A). The questionnaire begins with a brief introduction revealing the purpose and importance of the study in addition to the statements allaying from regarding participation and confidentiality of their responses in the survey. The self-administered questionnaire was developed using scales from previous studies. The questioner used dichotomous multiple choice, five point Likert scale types statements and open ended questions.

The questionnaire has been divided into three parts. The Part – A consists of nine questions to gather respondent's demographic information pertaining to age, gender, education qualification and income per month.

The Part – B consists of statements relating to the management attitude, HRD mechanisms operated, performance appraisal system, outcome of training and development, promotion outcome, outcome of career development, outcome of rewards, outcome of quality of work life, outcome of industrial relations, and level of satisfaction towards employee welfare through a five point Likert scaling technique where the highly agree has termed with five points score, agree with four points, neutral with three points, disagree with two points and highly disagree with one point.

The Part – C consists of statements relating to the statements pertaining to the OCTAPACE which were considered and included in the study, through a five point Likert scaling technique where the highly agree has been assigned with five points score, agree with four points, neutral with three points, disagree with two points and highly disagree with one point.

**Measurement of key variable:** All the measurement items were adopted from the existing scales to measure the objectives. Based on the review of literature on each item the present study has been prepared with a list of questions measuring different attributes. For adopting and refining the measures in the context, these measures were presented over two stages with samples of academicians and human resource managers. Ten academicians checked the scale variables for face validity and provided comments that were used to revise the scale.

### Reliability analysis

As a consequence of the modifying the instruments, the questionnaire measures were tested through reliability analysis

in order to determine if the sample subjects were understood, all the items in the questionnaire were tested for internal consistence. Because most of the measurement items were adopted from other studies which were used in different contexts, it was important to test the phraseology of the research instrument. The relationships among the individual items will be investigated by conducting the average item and the average inter item (cronbach's alpha) correlation. The total correlation was considered to be one of the methods available to test construct validity. It measures the internal consistency of the measuring instrument. The cronbatch's alpha was used to measure the reliability coefficient. For reliability coefficient values, it was suggested that 0.70 is the minimum requirement for basic research. If the correlations are low (less than 0.70) the contribution of each item will be reviewed and consideration will be given to drop from the scale of those items that provide the least empirical and conceptual support. The respective reliability values are presented in the analysis and interpretation chapter.

**Content validity:** The content validity of the measurement was evaluated by eminent academicians and research experts in human resource.

**Pilot study:** The questionnaire was pre-tested with a few samples among the selected sample employees in the study area. Taking into consideration the suggestions of the selected sample employees, necessary modifications and changes were incorporated in the questionnaire after the pilot study.

## METHODS OF ANALYSIS

The following tools of analysis were used in the study. The Statistical Package for Social Sciences (SPSS) was used to analyze the data and draw the inference.

- **Frequency Analysis:** The frequency distribution (Descriptive/percentage analysis) of the variables were calculated with help of simple percentage, by writing the formula  $fd = f/n * 100$ . Where 'f' denotes the number of respondents, and n denotes the total number of sample population. In the study the variables viz., Age, Gender, Number of adults in the household, Number of earning adults, marital status, religion, Education, Employment category, Income per month, were analyzed through frequency analysis.
- **Chi-square Test:** The degree of influence of the following independent variables pertaining to management attitude, HRD mechanisms operated, performance appraisal system, outcome of training and development, promotion outcome, outcome of career development, outcome of rewards, outcome of quality of work life, outcome of industrial relations, and level of satisfaction towards employee welfare with the employees' opinion was analyzed through Chi-square. The Chi-square test is an important test amongst the several tests of significance developed by statisticians. Chi-square, is symbolically written as  $\chi^2$  (pronounced as ki-square). Chi-square as a test of independence enables a researcher to explain whether or not two attributes are associated and the formula used is furnished below

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

With Degree of Freedom (D.F) = (c-1) (r-1)

Where,

O=Observed frequency

E = Expected frequency

C=Number of columns

R=Number of rows

The value obtained as such should be compared with relevant table value and the inference can be drawn. If the calculated value is greater than the table value the hypothesis framed will be rejected, otherwise accepted. The entire hypothesis test in this study was carried out at 5 percent level of significance. The researcher quite often face measurement problem (since there is a want of valid measurement but may not obtain it), especially when the concepts to be measured are complex and abstract and there is no need to possess the standardized measurement tools.

- **Factor Analysis:** To examine the various attributes such as management attitude, HRD mechanisms operated, performance appraisal system, outcome of training and development, promotion outcome, outcome of career development, outcome of rewards, outcome of quality of work life, outcome of industrial relations, and level of satisfaction towards employee welfare was analyzed through factor analysis. The principal component analysis of Factor analysis has been ascertained through VARIMAX rotation in order to identify the influencing factors.
- **Cluster Analysis:** A cluster analysis is a multivariate statistical technique which is used to by groups/persons or objects or occasions into unknown number of groups such that the members of each group are having similar characteristics or attributes. Grouping is done on the basis of similarities existing among the objects or persons or occasion distances. Cluster analysis is typically applied to the data recorded on interval scale or continued scaled variables. The researcher has selected 500 employees from Coimbatore city. The process of cluster analysis starts with grouping of similarities among the cases or entities either through correlations or distance measures and other techniques. In this study, the researcher has used Squared Euclidean distance measure to compute the similarity between two cases. Clustering procedures can be hierarchical, non –hierarchical or even the application of both the methods in determining the formation of clusters. The researcher has adopted both the methods for deriving the results. In the first step of hierarchical clustering technique, agglomerative clustering with between groups average linking method has been used in this study. After selecting the number of clusters from the above method a non-hierarchical clustering technique, K-mean clustering method was applied. From the solution, the number of respondents in each cluster and the necessary factors were identified.
- **Multiple Regression Analysis:** Regression is a statistical relationship between two or more variables. When there are two or more independent variables, the analysis that describes such relationship is the multiple regressions. The main objective of using this technique is to predict the variability of the dependent variable, based on its co-variance with all the independent variables.

**Discriminate Function Analysis:** The discriminant function analysis attempts to construct a function with these and other variables so that the respondents belonging to these two groups are differentiated at the maximum. The linear combination of variables is known as discriminant function and its parameters are called discriminant function coefficients. In constructing this discriminant function all the variables which contribute to differentiate these three groups are examined. Mahalanobis minimum  $D^2$  method is based on the generalized squared Euclidean distance that adjusts for unequal variances in the variables. The major advantage of this procedure is that it is computed in the original space of the predictor (independent) variables rather than as a collapsed version which is used in the other method. Generally, all the variables selected will not contribute to explain the maximum discriminatory power of the function. So a selection rule is applied based on certain criteria to include those variables which best discriminate. Stepwise selection method was applied in constructing discriminant function which selects one variable at a time to include in the function. Before entering into the function the variables are examined for inclusion in the function. The variables which could have maximum  $D^2$  value, if entered into the function is selected for inclusion in the function. Once entered any variable already in the equation is again considered for removal based on certain removal criteria. Likewise, at each step the next best discriminating variable is selected and included in the function and any variable already included in the function is considered for removal based on the selection and removal criteria respectively.

**Period of the study:** The study was confined to a period of three years. Reviewing the relevant literature and the conceptual frame work took six months. Preparation of the questionnaire and conducting the pilot study consumed six months. The data collection from the primary sources consumed a period of eight months. Preparing the master table and data analysis took another six months period. The interpretation and the presentation of the data in the form of the report covered five months. The last five months were used for rough drafting and in making out the final form of the thesis.

## REVIEW OF LITERATURE

A careful and comprehensive literature scanning is essential for formulating a research project and working out best implementation strategy. It is basic homework that is assumed to have been done vigilantly, and a given fact in all research papers. Furthermore, it not only surveys what research has been done in the past on the topic, but it also appraises, encapsulates, compares and contrasts, and correlates various scholarly books, research articles, and other relevant sources that are directly related to the current research... . Around 60 reviews collected

**Analysis and Interpretations:** The researcher has undertaken the present study with the specific aim of analyzing the HRD mechanisms' operated in the submersible pump industries in coimbatore city. On the basis of analysis the following findings are drawn:

### Demographic profile of the respondents

**Age wise distribution:** Analysis explains the age group of the respondents. As the age factors occupies the prior importance

in the survey method and the information pertaining to HRD mechanisms will be more viable when it is collected from the various age groups such as 1. Below 25 years 2. 26 to 30 years 3. 31 to 50 years 4. 50 years. From the analysis it was understood that a 36 per cent of the employees were in the age category of 26 to 30 years, 24 per cent of the employees were in the age category of below 25 years, 20 per cent of the employees were in the age category of 31- 50 years, and a remaining 19.2 per cent of the employees were in the age category of 50 years.

**Gender wise distribution:** The Analysis presents the importance of the Gender of the employees employed in the submersible industries, It is a myth that the hard works are carried by the males, but it is proved wrong in the submersible pump industries that women employees were also more in numbers and equal to men employees, From the analysis it could be understood that 50 per cent of the employees were male and a 50 per cent of the employees were female.

**Educational qualification:** The analysis depicts the educational qualification of the employees. The education is important in any of the production, manufacturing industries, from the analysis it was clear that 27.6 per cent of the employees were Degree holders, 22.4 per cent of them were Engineering Graduates, 21.8 per cent of the employees have completed ITI, 11 per cent of them have completed diploma and a remaining 17.2 per cent of the employees have completed higher secondary school education pertaining to vocational studies which study the importance of mechanical, instrumental studies.

**Monthly income:** The analysis present the monthly income of the respondents. The monthly income determines the ability of the employee employed and it is the determining factor for the level of satisfaction where in the quantum of work is imposed. From the analysis it was understood that a 31 per cent of the employees were earning a income below Rs.7,000, 25.6 per cent of the employees were earning a monthly income of Rs. 15,000, 23.8 per cent of the employees were earning a monthly income of Rs.10,001 15,000, and a remaining 19.6 per cent of the employees were earning a income of Rs. 7,001 – 10,000.

**Marital status:** The analysis represents the Marital status distribution of pump industry employees selected for the study. It is clear from the analysis that out of 500 selected respondents 363 are married which accounted for 72.58 % of the total samples and the remaining are single. This proves that 2/3 of the selected respondents are married.

**Residence:** The analysis represents the residence of pump industry employees selected for the study. It is clear from the analysis that out of 500 selected respondents 48 are from Urban area which accounted for 9.58 % of the total samples and the mainly the employees are from rural area. It is revealed that there are 310 employees who are from rural background which accounted for 61.92 % and finally 142 employees are from semi urban area. This proves that 2/3 of the selected respondents are mainly from rural background are villagers who have moved to pump industry units for job opportunities.

**Employment status:** The analysis represents the employment status of pump industry employees selected for the study. It is clear from the analysis that out of 500 selected respondents 174 are permanent employees which accounted

for 34.75 % of the total samples and. It is revealed that there are 267 employees who are working in temporary basis which accounted for 53.5 % and finally 59 employees are working under contract. This proves that pump industry sector provides job opportunities in all the categories and temporary employees are those who are working in probation period of one or two years and contract workers are appointed based on the need.

**Skill category:** The analysis represents the employment category of pump industry employees selected for the study. It is clear from the analysis that out of 500 selected respondents 155 are skilled employees which accounted for 31.08 % of the total samples. It is revealed that there are 131 employees who are unskilled and working in pump industry units which accounted for 26.25 % and finally 214 employees are semi skilled and working in the pump industry sector. This proves that pump industry sector provides job opportunities in all the categories and skilled workers are trained more where as unskilled employees are provided with on the job training based on business demands.

**Length of service (in years):** The analysis represents the length of service of the respondents selected for the study. It is clear from the analysis that out of 500 selected respondents 39 respondents are freshers and 48 persons are having experience upto 1 year. It is also clear from the analysis that 149 respondents are having 1 to 3 years experience and 226 respondents stated that they have 4 to 6 years of experience. Finally 38 respondents stated that they have 7 years. The following exhibit shows the graphical representation of the same.

**Family pattern:** The analysis represents the Family pattern of the respondents selected for the study. It is clear from the analysis that out of 500 selected respondents 310 respondents are from Nuclear family. It is also observed from the analysis 135 respondents are from joint family and 55 respondents stated that they live in extended family.

**Number of dependants:** The analysis represents the Number of dependents of the respondents selected for the study. It is clear from the analysis that out of 500 selected respondents 166 respondents are having 1-2 dependents. It is also observed from the analysis that 262 respondents have 3-4 dependents and 35 respondents stated that they live with 5-6 dependents and finally 37 stated that they have more than 7 dependents.

**Nature of accommodation:** The analysis represents the Nature of accommodation of the respondents selected for the study. It is clear from the analysis that out of 500 selected respondents 164 respondents having own house. It is also observed from the analysis 228 respondents staying in rental house and 156 respondents stated that they live in hostel and finally 104 stated that they are staying in paying guest rooms.

## Octapace model

### Elements of octapace model

The following are the elements constructed to apply OCTAPACE model for the study:

O1 - Free interaction amongst employees, each respecting other's feelings, competence and sense of judgment,

- O2 - Genuine sharing of information, feelings, and thoughts in meetings,  
 O3 - Free discussion and communication between seniors and subordinates,  
 O4 - Effective managers put a lid on their feelings,  
 O5 - Free and frank communication between various levels helps in solving problems,  
 C1 - Facing and not shying away from problems,  
 C2 - Going deeper rather than doing surface-level analysis of interpersonal problems,  
 C3 - Facing challenges inherent in the work situation,  
 C4 - Pass the buck tactfully when there is a problem,  
 C5 - Surfacing problems is not enough; we should find the solutions,  
 T1 - Offering moral support and help to employees and colleagues in crises,  
 T2 - Interpersonal contact and support amongst employees,  
 T3 - Confiding in seniors without fear of their misusing trust,  
 T4 - Trust begets trust,  
 T5 - when the chips are down you have to fend for yourself,  
 A1 - Congruity between feelings and expressed behaviour,  
 A2 - Tactfulness, smartness and even a little manipulation to get things done,  
 A3 - Owning up mistakes made,  
 A4 - Telling a polite lie is preferable to telling the unpleasant truth,  
 A5 - People are what they seem to be,  
 P1 - Preventive actions on most matters,  
 P2 - Seniors encouraging their subordinates to think about their development and take action in that direction,  
 P3 - Considering both positive and negative aspects before taking action,  
 P4 - Prevention is better than cure,  
 P5 - A stitch in time saves nine,  
 AU1 - Employees taking independent action relating to their jobs,  
 AU2 - Close supervision of, and directing employees on, action,  
 AU3 - Obeying and checking with seniors rather than acting on one's own,  
 AU4 - Freedom to employees breeds indiscipline,  
 AU5 - A good way to motivate employees is to give them autonomy to plan their work,  
 CO1 - Team work and team spirit,  
 CO2 - Accepting and appreciating help offered by others,  
 CO3 - Performing immediate tasks rather than being concerned about large organizational goals,  
 CO4 - Usually emphasis on team work dilutes individual accountability,  
 CO5 - Employees involvement in developing organizational mission and goals contributes to productivity,  
 EX1 - Employees trying out innovative ways of solving problems,  
 EX2 - Encouraging employees to take a fresh look at how things are done,  
 EX3 - Making genuine attempts to change behavior on the basis of feedback received,  
 EX4 - Thinking out and doing new things tones up organizational vitality,  
 EX5 - In today's competitive situation consolidation and stability are more important than experimentation.

With the help of factor analysis the OCTAPACE is clustered into seven major factors namely:

- Challenges faced by employees
- Freedom to employees
- Responsibility of employees
- Self assessment
- Team work
- Response to feed back
- Improvement of the organisation

### Cluster analysis

#### Grouping of employees opinion of octapace into cluster:

When considering the openness dimension it had a strong value in second and third cluster and the first cluster shows weakness. The confrontation dimension also as the same as openness dimension but the mean value is lesser in the first cluster. The Trust dimension followed the first two in pattern. The Authenticity dimension was strong in first and second cluster and moderate in the third cluster. The Pro action is strong in the second cluster, moderate in the first cluster and weak in the third cluster. The Autonomy dimensions follow the same mean values of Proaction. The collaboration and experimentation were weak in the first cluster, strong in the second cluster, and moderate in case of collaboration in the third cluster and strong in the third cluster with respect to experimentation. Structural modeling was identified in order to analyse the variables pertaining to the various dimension of selected pump manufacturing unit employees opinion at Coimbatore city. Further the structural modeling has been applied to identify the results for the various hypothesis framed viz.,

1. Ho: The Openness will have a influence over the confrontation.
2. Ho: The confrontation will have a influence over the Trust.
3. Ho; The Trust will have a influence over the Authenticity.
4. Ho: The Authenticity will have a influence over the Autonomy.
5. Ho: The Autonomy will have a influence over the pro activeness
6. Ho: The proactiveness will have a influence over the collaboration
7. Ho: The Collaboration will have a influence over the Experimentation.
8. Ho: The Education qualification of the employees will have a influence over the OCTAPCE dimensions.

From the vplss model it has proved that

1. The education has a significance over the Openness.
2. The education has a significance over the Confrontation.
3. The education has a significance over the Trust.
4. The education has a significance over the authenticity.
5. The education has a significance over the pro action.
6. The education has a significance over the Autonomy.
7. The education has a significance over the Collaboration.
8. The education has a significance over the Experimentation.

Further the model tested with the inner dimensions of OCTAPACE and it have resulted with the following:

1. The Openness is not having a influence over the Confrontation.
2. The Confrontation is not having a influence over the Trust.
3. The Trust is not having a influence over the Authenticity.
4. The Authenticity is having a influence over the Pro action.
5. The Pro action is not having a influence over the Autonomy.
6. The Autonomy is having a influence over the Collaboration.
7. The Collaboration is not having a influence over the Experimentation.

#### Grouping of employees opinion of OCTAPACE into Cluster

Octapace	Cluster		
	1	2	3
Openess	1.746(weak)	3.276(strong)	4.875(strong)
Confrontation	1.592(weak)	4.876(strong)	3.127(strong)
Trust	1.752(weak)	3.287(strong)	4.897(strong)
Authenticity	3.654(strong)	3.765(strong)	2.245(moderate)
Pro action	2.832(moderate)	4.456(strong)	1.989(weak)
Autonomy	2.875(moderate)	3.597(strong)	1.824(weak)
Collaboration	1.584(weak)	3.887(strong)	2.854(moderate)
Experimentation	1.276(weak)	3.864(strong)	4.872(strong)

**Management attitude:** When analyzing the management attitude regarding the HRD mechanisms' in the pump industries the factors viz., personnel policies in this organization facilitate employee development, Managers of this organization believe that employee's behavior can be changed and developed at any stage of their life. The management believes that liberalizing their policies will make employees enjoy their job have secured the I, II, III ranks and it proves the submersible pump industries allows the employees to facilitate themselves for a better life in the work place and equal amount of space is provided to the employees do change their life style and attitude. Whereas the factors viz., Senior employees in this organization take active part in the development of juniors in their job, The management is practicing healthy reward systems, The top management of this organization make efforts to identify and utilize the potential of the employees has secured very low points and it enforces that these factors has to be concentrated by management to improve HRD mechanisms'.

**Existing HRD mechanisms:** The existing practices of HRD mechanism is in pump industries are novel and innovative, The organizational climate in this organization is very conducive and supportive to employees to acquire new knowledge and skills, When the employees are provided training, they attend the training programmes seriously has been agreed by the employees towards the maximum extent and it is positive in the practicing climate of HRD. When an employee makes a mistake, your supervisors treat it with understanding and help him learn from such mistakes rather than punishing him or discouraging him, When an employee makes a mistake, your supervisors treat it with understanding and help him learn from such mistakes rather than punishing him or discouraging him, Performance appraisal reports of employees in your organization are based on objective assessment and not on favoritism factors has to concentrated more by the organisations producing submersible pumps.

**Performance appraisal system:** The existing training mechanisms' adopted in the organizations were having sound viability among the employees and they have better scope in developing their carrier by excelling in their training. Those employees who takes a better training has been elevated through better positions in their organizations or outside the organizations. The factors viz promotion and Reward system were having low agreeability among the employees and it proves that there is a mandatory need to the organizations to evolve a better rewarding practices and promotion avenues inside the organizations.

**Training and development:** When analyzing the outcome of Training and Development, those employees who underwent training have been influenced to increase their Efficiency to take up new assignments in their organizations, and so it helps to achieve the target within the stipulated time hence it is an essential factor for the organizations in providing a better training for their employees. The factors of training has not helped the employees in knowing the present technology which could help them in their production and hence the Training component has to be designed by the organizations' by giving avenues to impart latest technologies and the provisions for better training which could lead to higher productivity.

**Promotion outcome:** When the employees are properly trained and given the culture of promotions it will lead them to take up excelling outputs. Analysing the outcome of promotion reveals that the employees have felt that the organization gives them more responsibility and a way to yield more Monetary Rewards.

**Outcome of career development:** When taking the outcome of career development it is understood that the organization has given them more individual development opportunity so that the productivity also increases proper motivation will lead to the development of organization. But the employees have a opinion that the organization has not allowed to improve skill and knowledge and a very lesser chance to become experts.

**Level of satisfaction on the outcome of rewards:** The employees level of satisfaction was observed on the outcome of rewards, the opinion reveals that the employees were having a high degree of enthusiasm and it has pulled them to create more interest on tasks. But the outcome has not helped them to increase their productivity. In order to increase productivity the employees have to be given chance to participate in the vision and mission plans and generate high ideas.

**Level of satisfaction on quality of work life:** The employees are facilitated to improve their quality of life helps in increasing their Morale, and improvement in productivity.

**Level of satisfaction towards the outcome of I.R.:** The employees were highly satisfied with use of organizing of the resources and the smooth processing of the functions in the organization. But still the organization has to find way to improve coordination among employees and the art of assigning tasks.

**Level of satisfaction towards welfare facilities:** The employees were highly satisfied with the medical facilities and canteen facilities but still the organizations has to improve the facilities of rest room facilities, recreational facilities, and educational facilities.

**Discriminate analysis:** Out of 12 factors ten variables discriminate the level of job satisfaction of pump industry employees towards the HRD mechanism which includes Gender, Age, Native, Marital Status, Educational Qualification, Employment status, Employment category, Monthly salary, Length of service, Nature of Accommodation

### Conclusion

Employees are the valuable assets of any organization. The present study is an attempt to contribute to a better understanding of the HRD climate prevailing in submersible manufacturing organizations. The general climate, HRD Mechanisms and OCTAPAC culture are better in submersible pump organizations. From the analysis it is seen that the organization involved in manufacturing pumps have given due importance and priority in implementing HRD mechanisms. The extent of HRD climate prevailing in the organizations is seen to improve employees performance. It is therefore important to focus on various aspects of the HRD climate prevalent in the organization.

### Scope for further study

The study can be further extended to analyse the theory of whistle blowing in the pump industry in Coimbatore. As the industry is complex and the skilled manpower is highly movable.

## ANNEXURE 1

Questionnaire an analysis of the HRD mechanisms employed by the submersible pump manufactures in Coimbatore city

### Demographic profile

1.	Name of the textile unit & location	:		
2.	Gender	:	a. Male	<input type="checkbox"/>
			b. Female	<input type="checkbox"/>
3.	Age	:	a. Below 25 years	<input type="checkbox"/>
			b. 26-30 years	<input type="checkbox"/>
			c. 31-50 years	<input type="checkbox"/>
			d. Above 50 years	<input type="checkbox"/>
4.	Educational Qualification	:	a. Diploma	<input type="checkbox"/>
			b. ITI	<input type="checkbox"/>
			c. Degree	<input type="checkbox"/>
			d. Engineering	<input type="checkbox"/>
			e. Higher secondary education	<input type="checkbox"/>
5.	Monthly salary (in Rs.)	:	a. Below Rs. 7000	<input type="checkbox"/>
			b. Rs. 7001 to 10000	<input type="checkbox"/>
			c. Rs. 10001 to 15000	<input type="checkbox"/>
			d. Above Rs. 15000	<input type="checkbox"/>
6.	Native	:	a. Urban	<input type="checkbox"/>
			b. Rural	<input type="checkbox"/>
			c. Semi Urban	<input type="checkbox"/>
7.	Marital status	:	a. Married	<input type="checkbox"/>
			b. Single	<input type="checkbox"/>
8.	Employment status	:	a. Permanent	<input type="checkbox"/>
			b. Temporary	<input type="checkbox"/>
			c. Contract	<input type="checkbox"/>
9.	Employment category	:	a. skilled	<input type="checkbox"/>
			b. unskilled	<input type="checkbox"/>
			c. semiskilled	<input type="checkbox"/>
10.	Length of service (in years)	:	a. Fresher	<input type="checkbox"/>
			b. Up to 1 year	<input type="checkbox"/>
			c. 1 to 3 years	<input type="checkbox"/>
			d. 4 to 6 years	<input type="checkbox"/>
			e. Above 7 years	<input type="checkbox"/>
11.	Family pattern	:	a. Nuclear family	<input type="checkbox"/>
			b. Joint family	<input type="checkbox"/>
			c. Extended family	<input type="checkbox"/>
12.	Number of dependants in the Family	:	a. 1 - 2	<input type="checkbox"/>
			b. 3 - 4	<input type="checkbox"/>
			c. 5 - 6	<input type="checkbox"/>
			d. 7 and above	<input type="checkbox"/>
13.	Nature of Accommodation:		a) Own house	<input type="checkbox"/>
			b) Rental house	<input type="checkbox"/>
			c) Hostel	<input type="checkbox"/>
			d) Paying guest	<input type="checkbox"/>

## RESULTS

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## II. State your agreeability towards the Management Attitude in following the HRD Mechanism

S. no	Particulars	HS	S	N	DS	HDS
1	The management believes that liberalizing their policies will make employees enjoy their job					
2	the management believes that human resources are an extremely important resources and employees have to be treated more humanely					
3	Development of the subordinates is seen as an important part of their job by the managers/officers of the organization					
4	The personnel policies in this organization facilitate employee development					
5	Senior employees in this organization take active part in the development of juniors in their job					
6	Managers of this organization believe that employee's behavior can be changed and developed at any stage of their life.					
7	The top management of this organization make efforts to identify and utilize the potential of the employees					
8	Promotion of the employee is based on employee performance level rather than on favoritism					
9	The management is practicing healthy reward systems					
10	Delegation of authority is to encourage the employees better their productivity in the organization					

(HS – Highly Satisfied, S – Satisfied, N – Neutral, DS – Dis Satisfied, HDA – Highly Dis Satisfied)

## III. State your agreeability towards the perceptions by the respondents on the HRD mechanism existing at pump industries

S. No	Particulars	HS	S	N	DS	HDS
1	The existing practices of HRD mechanism in pump industries are novel and innovative					
2	The organizational climate in this organization is very conducive and supportive to employees to acquire new knowledge and skills					
3	The supervisor's appreciation and cooperation are good					
4	Performance appraisal reports of employees in your organization are based on objective assessment and not on favoritism					
5	When an employee makes a mistake, your supervisors treat it with understanding and help him learn from such mistakes rather than punishing him or discouraging him					
6	Weakness of employees are communicated to them in a normal way, and feedback is considered seriously for their development					
7	Employees in this organization take pains to find out their strengths and weakness from their supervising officers or colleagues					
8	When the employees are provided training, they attend the training programmes seriously					
9	Career opportunities and career planning are properly informed to junior by senior officers in the organization					
10	Job rotation and welfare facilities are provided by the organization for facilitating employee development					

## IV state your agreeability towards the benefits of performance appraisal system

S. No	Particulars	HS	S	N	DS	HDS
1	Promotion					
2	Rewards					
3	Training					
4	Career development					

## V. state your agreeability towards the outcome of Training and Development

S.No	Particulars	HS	S	N	DS	HDS
1	Higher Productivity					
2	Knowing About The New Technology					
3	Helps To Achieve The Target Within The Time					
4	Increasing Efficiency To Take Up New Assignment					

## VI. State your opinion about the promotion outcome

S.No	Particulars	HS	S	N	DS	HDS
1	More Authority					
2	More Responsibility					
3	More Monetary Rewards					
4	More Recognition					

## VIII. Level of satisfaction about the outcome of career development

S.No	Particulars	HS	S	N	DS	HDS
1	Development Of Organization					
2	More Individual Development Opportunity					
3	Improves Skill And Knowledge					
4	Provides Chance To Become Experts					

## IX. State your level of satisfaction about the outcome of rewards:

S. No	Particulars	HS	S	N	DS	HDS
1	Help to improve the productivity					
2	Create more interest on tasks					
3	Help to keep enthusiasm					
4	Stimulate for 100 percent contribution					

## X. State your agreeability towards the level of satisfaction regarding the resultant outcome of quality of work life

S. No	Particulars	HS	S	N	DS	HDS
1	Increasing Productivity					
2	Increasing Morale					
3	Increasing company goodwill					
4	Increase Interest Towards Common Goal					

**XI. State your agreeability towards the level of satisfaction regarding the Outcome of IR**

S. No	Particulars	HS	S	N	DS	HDS
1	Smooth Processing					
2	Helps for coordination					
3	Easy organizing of the resources					
4	Leads to complete the task within time					

**XII. State your agreeability towards the level of satisfaction towards employees' welfare facilities**

S. No	Particulars	HS	S	N	DS	HDS
1	Medical facilities					
2	Canteen facilities					
3	Rest room facilities					
4	Recreational facilities					
5	Educational facilities					

**SECTION - C****XIII. State your agreeability towards the following variables regarding the octapace (Openess, Collaboration, Trust and Trustworthiness, Authenticity, Proaction, Autonomy, Confrontation and Experimentation) Culture FOLLOWED IN YOUR ORGANIZATION.**

	variables	HS	S	N	DS	HDS
O1	Free interaction amongst employees, each respecting other's feelings, competence and sense of judgment					
O2	Genuine sharing of information, feelings, and thoughts in meetings					
O3	Free discussion and communication between seniors and subordinates					
O4	Effective managers put a lid on their feelings					
O5	Free and frank communication between various levels helps in solving problems					
C1	Facing and not shying away from problems					
C2	Going deeper rather than doing surface-level analysis of interpersonal problems					
C3	Facing challenges inherent in the work situation					
C4	Pass the buck tactfully when there is a problem					
C5	Surfacing problems is not enough; we should find the solutions					
T1	Offering moral support and help to employees and colleagues in crises					
T2	Interpersonal contact and support amongst employees					
T3	Confiding in seniors without fear of their misusing trust					
T4	Trust begets trust.					
T5	when the chips are down you have to fend for yourself.					
A1	Congruity between feelings and expressed behavior.					
A2	Tactfulness, smartness and even a little manipulation to get things done.					
A3	Owning up mistakes made					
A4	Telling a polite lie is preferable to telling the unpleasant truth.					
A5	People are what they seem to be.					
P1	Preventive actions on most matters					
P2	Seniors encouraging their subordinates to think about their development and take action in that direction					
P3	Considering both positive and negative aspects before taking action.					
P4	Prevention is better than cure.					
P5	A stitch in time saves nine.					
AU1	Employees taking independent action relating to their jobs.					
AU2	Close supervision of, and directing employees on, action.					
AU3	Obedying and checking with seniors rather than acting on one's own.					
AU4	Freedom to employees breeds indiscipline					
AU5	A good way to motivate employees is to give them autonomy to plan their work.					
CO1	Team work and team spirit.					
CO2	Accepting and appreciating help offered by others.					
CO3	Performing immediate tasks rather than being concerned about large organizational goals.					
CO4	Usually emphasis on team work dilutes individual accountability					
CO5	Employees involvement in developing organizational mission and goals contributes to productivity					
EX1	Employees trying out innovative ways of solving problems.					
EX2	Encouraging employees to take a fresh look at how things are done.					
EX3	Making genuine attempts to change behavior on the basis of feedback received.					
EX4	Thinking out and doing new things tones up organizational vitality					
EX5	In today's competitive situation consolidation and stability are more important than experimentation					

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