



# ENHANCING HUMAN PRODUCTIVITY THROUGH HUMAN RESOURCE MANAGEMENT TECHNIQUES

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## ABSTRACT

*In this paper we study and analyze a set of Human Resource Management (HRM) techniques and understanding of their relationship to human productivity. We have classified the set of HRM techniques for the firm sizes which are small, medium, and big sized firms. This segregation was done on the basis of the number of employees working in the firm. First, by theoretically analyzing the HRM techniques, it was observed that HRM techniques and productivity are highly correlated, and also by theoretical study only we select the most prominent set of HRM techniques, then out of those HRM techniques top three techniques for each of the firm sizes was statistically estimated by performing TOPSIS analysis which is a Multi-Criteria Decision Making (MCDM) tool. The results are tabulated for the set of top three HRM techniques for each of the firm size.*

## INTRODUCTION

An effective human resource management (HRM) framework is the most important resource for an organization as it is related to the productivity is closely related of the employee as well as to the productivity of the organization. The HRM provides avenues for providing insights to various areas wherein productivity can be improved significantly. Various studies have demonstrated that the executions of proper administration frameworks and procedures add to usefulness enhancements under the observation of cost and investment risk. HRM frameworks are firmly connected with business techniques, hence it decidedly influences business execution too.

Human resource management techniques can be briefly described as a comprehensive approach to managing employees and an organization's culture and environment and range over a wide band some of which are mentioned here; Mentoring, Workplace Climate Assessment, Performance Evaluation, Incentive Systems, Improve Work/life Balance, Providing security to employees, Selective hiring: Hiring the right people, Self-managed and effective teams, Fair and performance-based compensation, Training in relevant skills, Creating a flat and egalitarian organization, Making information easily accessible and others. Productivity in simple terms can be defined as a measure of how well resources are utilized to produce output which in our case our human resources, all the mentioned factors contribute towards the productivity of the organization's employees the more efficiently and optimally the HRM practices are managed the higher the scale of productivity reaches and in this paper we will be studying and analyzing this concept using theoretical study and analytical tools. Productivity in simple terms can be defined as a measure of how well resources are utilized to produce output which in our case our human resources, and it will be measured against HRM factors. which would be Flexible working hours, Performance assessment, Training and development, Benefit system, and Working Environment.

## LITERATURE REVIEW

1. (By Mihalj Bakator, Nikola Petrovic, Sladana Boric, Natasa Đalic "impact of human resource management on business performance: a review of literature" The impact of human resource management (HRM) on corporate performance is examined in this research. The major purpose was to conduct a thorough and systematic assessment of literature in the areas of human resource management and company performance, culminating in a brief review report. Because there is a substantial body of literature on the HRM-business performance link, there was plenty of room for a comprehensive review of numerous papers. To be more specific, two hundred and twelve (212) papers were examined, with 187 being eliminated after multiple stages of the review process.
2. (By Liang-Hsuan Chen Shu-Yi Liaw Tzai-Zang Lee) "Using an HRM pattern approach to examine the productivity of manufacturing firms - An empirical study" this paper shows the control of human resource management (HRM) on business performance. The main aim was to thoroughly and systematically survey literature in the domain of HRM, and business performance that evolved in a brief review paper. A wide body of literature label the HRM-business performance link, thus there was many room for an extensive analysis of various articles.
3. (By Magdalena Majowska, Agata Austen) "human resources management effectiveness from a multilevel perspective" Although it has already proven that there is a positive relationship between the effectiveness of HRM and the performance of



the organization, there is a little reason why this positive relationship exists and the reason is the focus on the enterprise level, instead of examining behavioral aspects of every individual in the organizations. . The goal of this paper is to complete the gap in HRM effectiveness research by applying a multilevel approach. The research was conducted to examine how HRM effectiveness was linked to other variables in previous research according to the multilevel logic

4. (By Ray Markey, Candice Harris, Felicity Lamm, Stefan Kesting, Katherine Ravenswood, Gay Simpkin & David Williamson) "improving productivity through enhancing employee wellbeing and participation"

This paper frames the rationale and methodology for an international comparative project exploring the connections between working environment productivity and worker wellbeing and through means of representation of employee representative interest structures in Denmark and New Zealand. It will define and examine the frequently contented terms of efficiency and how worker support and prosperity and the workplace sway on efficiency. This paper utilizes a complex hypothetical system and will evaluate the significance of the issues inspected: investigate the effect {of employment practices and the nature of the workplace on usefulness: and accordingly presell the procedure fostered the task.

1. (By Jolanta Jaskiene) "HRM practices enhancing research performance" This paper aims to show how HRM practice improves research performance. Attention is towards the specific correlates that influence high research performance at institutions of higher education. To respond to the research question a deep analysis of past research studies is done. This study grants an explanation of explicit HRM practices that impact individual research brilliance used and lead to investigation the splendor. HRM practices are arranged into skill improvement, motivation improvement, and opportunity-upgrading practices for research-situated work. Results mirror the references of past examinations to investigate determinants of exploration execution in a complicated and underlying way and uncover a particular arrangement of HRM practices that empower to change of individual attributes into execution
2. (By Naveed Iqbal, Mansoor Ahmad, Matthew M.C. Allen) "This study draws upon social exchange theory to explore the role of impersonal trust as an intermediate value-creating factor between electronic human resource management (e-HRM) and productivity". The purpose of this paper is to seek the extraction and "result of impersonal trust inside associations to give a comprehensive perspective on e-HRM and employee efficiency. This is the principal study to inspect how impersonal trust intervenes the connection between e-HRM and worker efficiency.
3. (By Denise Jackson, Sonia Ferns, David Rowbottom & Diane McLaren) "Improving the work-integrated learning experience through a third-party advisory service" The assistance was established to broke connections among industry and colleges, support boss occupied with WIL, and improve the WIL experience for both the students and managers. It was executed north of a 10-month time frame, covering two semesters, during 2015. 46 students work placement were conducted through service with strong promotional campaign to raise awareness of the benefit of WIL among the employers. Information were assembled from taking part employers and students to assess the help and measure its success. During WIL process discussion, strategies to enhance service to better manage issues
4. (By J. Bruce Tracey) "A review of human resources management research The past 10 years and implications for moving forward" the motive behind the paper is to introduce an audit of the (HR) research that has been published throughout the course of recent years in discipline-based and hospitality explicit journal and recognize key patterns and potential open doors for future exploration. The paper appears as a critical review of extant literature in The overall HR the executives and cordiality HR the board fields.
5. (Corine Boon, Deanne N. Den Hartog, David P. Lepak) "In the essential human resource (HR) the management literature, throughout the course of three decades, a common agreement has fostered that the attention ought to be on HR frameworks as opposed to individual HR practices in light of the fact that the impacts of HR practices are probably going to rely upon different practices inside the framework. In spite of this understanding, the degree to which the essential presumption in the field of connections and collaboration in the framework remains constant is muddled. We present a methodical survey of 495 experimental investigations on 516 HR frameworks in which we examine the advancement of HR frameworks research over the long run and distinguish significant patterns, unequivocally connecting conceptualization and estimation of the HR framework"
6. (by ken mayhew andy neely) "improving productivity— opening the black box "Hourly productivity levels in the UK still remain behind those in some competitors countries. The government gives a lot of policy regard for upgrading usefulness and keeps on accentuating its five drivers-speculation, development, abilities, venture, and contest. This article contends that it is venture extensively characterized that is the way to supported usefulness improvement. The accentuation ought to be on further developing usefulness all the while with working on the nature of creation. Just accordingly will the additions be generally shared. In accomplishing these points there are two requirements for strategy producers. The first is to guarantee preferred coordination of strategy over seems, by all accounts, to be as of now accomplished by the present departmental designs in Whitehall"
7. (by evan m. berman) "hrm in development: lessons and frontiers" This article examines contribution of human resources management (HRM) to reinforcing state organizations being developed settings. It likewise recognizes driving practices and outskirts in HRM practice and exploration. "Specialized" HRM aptitude being developed exists in coordinating hierarchical execution with staffing, advancing decentralization, global undertaking the executives, and preparing, and research likewise shows broad worries with support and hostile to defilement. Boondocks are examined regarding vital HRM, prominently further developed initiative turn of events/ability the executives, labor force commitment in creating



settings, re-examining/professionalization of representative chief relations, extensive HRM techniques, and expanded administration for HRM itself.

## OBJECTIVE & THEORY

In this paper, we have taken into consideration a total of five HRM Techniques that would have a high influence on the productivity of employees, which were selected after a proper review of multiple publications and theoretical study. Each of these five HRM Techniques was then analyzed for three different firm sizes that are small, medium, and big then for each firm size ranks were provided to the five HRM Techniques on the basis of three parameters that are “Impact”, “Need”, and “Feasibility” among which top 3 were considered as the most prominent HRM techniques i.e. having the highest influence on employees productivity thereby we would obtain the correlation between HRM Techniques and Human productivity.

Now let us explain the five HRM techniques that we have taken into consideration-

- (i) Flexible working hours-This technique gives freedom to workers to choose the working hours in which they want to work according to their personal needs.
- (ii) Performance assessment- This is used to measure how well the employee performed their given task and is very much similar to KPIs (Key Performance Indicators)
- (iii) Training & development- In this, the employee is trained and provided knowledge about the kind of work that he/she is going to perform
- (iv) Benefit system- In this, the employee is provided with some extra perks on the basis of the quality of the work that they deliver like bonuses, a trip sponsored by the company, etc.
- (v) Working Environment- Here the social relationship among the employees between the employees and the management is considered, how the physical environment is around the staff and how freely the employees can work.

Also, we would now provide an understanding of the 3 parameters that we would be used to classify the five selected HRM techniques-

- (i) Impact- This factor is used to denote the influence of our selected HRM Technique on Human productivity
- (ii) Need- This factor takes into account the extent to which we require our set of HRM Techniques in order to improve productivity
- (iii) Feasibility- This factor is highly crucial as it provides us with information on whether it is possible to perform the selected HRM Technique.

Since in this research paper we have primarily focused on three different firm sizes namely small, medium and big and they have mainly been classified on the basis of no. of employees that are there in the firm, after doing theoretical research we were able to conclude that firms having members between 0-200 are classified under small for example startups, then firms having members between 200-2000 are considered as medium-sized, for firms having more than 2000 and even up to 1,00,000 members or more are considered as a big firm, for example, any MNC.

## METHODOLOGY

A survey of 61 individuals was conducted which mostly included individuals above 18 that were either graduates or post-graduates. A total of 45 (15 for small size firms, 15 for medium-sized firms, and 15 for big size firms) questions were asked to each and every one of them, and on a scale of 1-5, the individual had to mark the answer. For ex- Let us consider one of our HRM techniques among the five, say “Flexible working hours” and let us consider our three criteria impact, need, and feasibility. Then, the questions asked were Impact of “Flexible working hours”, Need of “Flexible working hours” and Feasibility of “Flexible working hours” where each question was provided with a scale of 1-5 and the individual had to rate that question on the basis of the influence it would have on the human productivity (in the scale of 1-5 where, 1-very low, 2-low, 3-medium, 4-high, 5-very high) say an individual thinks the impact of flexible working hours would be low in “small” scale firm, then he marks the option 2. If he thinks it would be medium in a “medium” scale firm he marks 3. If he thinks it would be very high in a “Big” scale firm he marks 5. Similarly, a questionnaire of 45 questions was prepared and a total of 61 responses were recorded using which we performed our TOPSIS analysis.

For calculating the ranks of HR Techniques in three different firm sizes, that are “small”, “medium” and “large” firms we have performed Fuzzy TOPSIS Analysis which a

Multi-Criteria Decision Making (MCDM) Technique used to evaluate a set of methods on the basis of certain parameters, where those certain parameters are provided weightage by the decision-makers on the basis of which performance rating is calculated which is used to provide ranks to the selected set of methods.

In TOPSIS analysis the weight that has been distributed to the criteria plays a major role in determining the final result, so first using the CRITIC method we have distributed the weight to each parameter that is “impact”, “need” and “feasibility” for each firm size and then we have applied TOPSIS analysis

So basically CRITIC method has been applied three times since we are working with three different firm sizes. After that TOPSIS analysis has also been performed three times for calculating the top 3 HRM techniques for “small”, “medium”, and “big” firms.

Before we begin the CRITIC method for weight determination or TOPSIS analysis, we have prepared a single matrix for both our HRM techniques and criteria together by taking the mean of the 61 values that we have obtained during our survey for the three firm sizes, it is represented below-

Actual Small				Actual Medium				Actual Big			
Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2.4	2.4	1.6	Flexible working hours	3.2	3.2	3.2	Flexible working hours	4	4.7	3.4
Performance assessment	3.2	3.3	2.5	Performance assessment	3.9	4	3.9	Performance assessment	4	4	4
Training & development	4	4.4	3.4	Training & development	3.4	3.2	3.7	Training & development	2.7	3.6	3.7
Benefit system	3.8	3.1	2.1	Benefit system	3.8	3.3	3.8	Benefit system	3.2	3.2	3.8
Working Environment	3	3.2	4.2	Working Environment	3.8	3.5	3.2	Working Environment	3.8	4	3.1

Above are the actual tables which we obtained, in which each cell value of the matrix was obtained by taking averages of the 61 responses collected during the survey, to ease our calculation the tables were then approximated which is represented below-

Approximated Small				Approximated Medium				Approximated Big			
Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2	2	2	Flexible working hours	3	3	3	Flexible working hours	4	5	3
Performance assessment	3	3	3	Performance assessment	4	4	4	Performance assessment	4	4	4
Training & development	4	4	3	Training & development	3	3	4	Training & development	3	4	4
Benefit system	4	3	2	Benefit system	4	3	4	Benefit system	3	3	4
Working Environment	3	3	4	Working Environment	4	3	3	Working Environment	4	4	3

Now we will see how the CRITIC method is used to provide weightage to the criteria impact, need, and feasibility we will show this by calculating weightage for small size firms, and then similarly weightages can be calculated for medium and big firm sizes.

The CRITIC Method for the small-sized firm is discussed below-

(i) Here is our decision matrix-

Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2	2	2
Performance assessment	3	3	3
Training & development	4	4	3
Benefit system	4	3	2
Working Environment	3	3	4

The first step is to calculate the best and worst value for each criterion-

Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2	2	2
Performance assessment	3	3	3
Training & development	4	4	3
Benefit system	4	3	2
Working Environment	3	3	4
Best	4	4	4
Worst	2	2	2

Then normalize the decision matrix by applying the formula below to each cell-

$$\bar{X}_{ij} = \frac{X_{ij} - X_j^{worst}}{X_j^{best} - X_j^{worst}}$$

After applying the formula we get-

Criteria \ Technique	Impact	Need	Feasability
Flexible working hours	0.0	0	0
Performance assessment	0.5	0.5	0.5
Training & development	0.0	1	0.5
Benefit system	1.0	0.5	0
Working Environment	0.0	0.5	1

(ii) Calculate the standard deviation for each criterion, the matrix is shown below-

Criteria \ Technique	Impact	Need	Feasability
Flexible working hours	0.0	0	0
Performance assessment	0.5	0.5	0.5
Training & development	0.0	1	0.5
Benefit system	1.0	0.5	0
Working Environment	0.0	0.5	1
Standard Deviation	0.447214	0.353553	0.418330013

(iii) Determine the symmetric matrix, for the criteria by using the correlation each criterion has with each other the matrix is presented below-

Symmetric Matrix			
Criteria	Impact	Need	Feasability
Impact	1	0	-0.467707173
Need	0	1	0.422577127
Feasability	-0.46771	0.422577	1

(iv) Calculate the measure of conflict using the formula mentioned-

$$\sum_{k=1}^m (1 - r_{jk})$$

It is represented in the table below-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - r_{jk})$
Impact	0	1	1.467707173	2.467707173
Need	1	0	0.577422873	1.577422873
Feasability	1.467707	0.577423	0	2.045130046

(v) Then we calculate the  $C_j$  value by using the formula mentioned below-

$$C_j = \sigma_j * \sum_{k=1}^m (1 - r_{jk})$$



It is shown below-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - r_{jk})$	Cj
Impact	0	1	1.467707173	2.467707173	1.1035922
Need	1	0	0.577422873	1.577422873	0.5577032
Feasability	1.467707	0.577423	0	2.045130046	0.8555393

(vi) Then finally we calculate the weights for each criteria using the formula shown below-

$$W_j = \frac{C_j}{\sum_{k=1}^m C_j}$$

The weights are represented in the table shown here-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - r_{jk})$	Cj	Weights
Impact	0	1	1.467707173	2.467707173	1.1035922	0.44
Need	1	0	0.577422873	1.577422873	0.5577032	0.22
Feasability	1.467707	0.577423	0	2.045130046	0.8555393	0.34

Similarly, the weights for medium-firm size are-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - r_{jk})$	Cj	Weights
Impact	0	0.591752	0.833333333	1.425085	0.780551	0.37
Need	0.591752	0	0.59175171	1.1835034	0.529279	0.25
Feasability	0.833333	0.591752	0	1.425085	0.780551	0.37

And the weight for big firm size are-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - r_{jk})$	Cj	Weights
Impact	0	0.354503	1.666666667	2.0211694	1.10704	0.31
Need	0.354503	0	1.645497224	2	0.707107	0.19
Feasability	1.666667	1.645497	0	3.3121639	1.814147	0.50

Now we will discuss how TOPSIS analysis has been applied step by step in order to obtain the required results. Here how the TOPSIS analysis has been applied to “Small” firm size is shown and in a similar manner it can be applied to “Medium” and “Big” firm sizes

**Small Firm**

(i) Initially the weights that we have calculated from the CRITIC Method would be assigned to the three Criteria- “Impact”, “Need” and “Feasability” as shown below-

Weightage	0.44	0.22	0.34
Criteria			
Technique	Impact	Need	Feasability
Flexible working hours	2	2	2
Performance assessment	3	3	3
Training & development	4	4	3
Benefit system	4	3	2
Working Environment	3	3	4

Now the normalized matrix would be calculated using the formula mentioned below-

$$\bar{X}_{ij} = \frac{X_{ij}}{\sqrt{\sum_{j=1}^n X_{ij}^2}}$$

After applying the formula to each cell we had our “normalized matrix” as-

Weightage	0.44	0.22	0.34
Criteria			
Technique	Impact	Need	Feasability
Flexible working hours	0.322329	0.3211151	0.245660115
Performance assessment	0.429772	0.4415333	0.383843929
Training & development	0.537215	0.5887111	0.522027744
Benefit system	0.510355	0.4147737	0.322428901
Working Environment	0.402911	0.4281535	0.644857802

(ii) In this step we will calculate the “Weighted normalized matrix” using the formulamentioned below-

$$V_{ij} = \bar{X}_{ij} \times W_j$$

After applying the formula to each cell we had our “Weighted normalized matrix” as-

Weightage	0.44	0.22	0.34
Criteria			
Technique	Impact	Need	Feasability
Flexible working hours	0.141825	0.0706453	0.083524439
Performance assessment	0.1891	0.0971373	0.130506936
Training & development	0.236375	0.1295164	0.177489433
Benefit system	0.224556	0.0912502	0.109625826
Working Environment	0.177281	0.0941938	0.219251653

(iii) Here we will be calculating the ideal best and ideal worst value, as here all three criteria that we have considered are “beneficial criteria” so the ideal best value(V+) and ideal worst value(V-) for each criterion would be the maximum and minimum value in that respective criteria(In excel this was calculated using the max and min function)-

Ideal best, V+ = Max value of specific criteria  
 Ideal worst, V- = Min value of specific criteria

Here is the matrix for Ideal Best/Worst value-

Criteria	Impact	Need	Feasability
	Ideal Best/Worst		
V+	0.236375	0.1295164	0.219251653
V-	0.141825	0.0706453	0.083524439

(iv) In this step we will be calculating the Euclidean distance from the ideal best(Si+) and Euclidean distance from the ideal worst(Si-) using the formula mentioned below-

$$S_i^+ = \left[ \sum_{j=1}^m (V_{ij} - V_j^+)^2 \right]^{0.5}$$

$$S_i^- = \left[ \sum_{j=1}^m (V_{ij} - V_j^-)^2 \right]^{0.5}$$

After applying the formula we were able to obtain the Si+ and Si- values as represented below-

Weightage	0.44	0.22	0.34		
Criteria	Impact	Need	Feasability	Si+	Si-
	Technique				
Flexible working hours	0.141825	0.0706453	0.083524439	0.175577	0
Performance assessment	0.1891	0.0971373	0.130506936	0.105636	0.071722
Training & development	0.236375	0.1295164	0.177489433	0.041762	0.145722
Benefit system	0.224556	0.0912502	0.109625826	0.116713	0.089164
Working Environment	0.177281	0.0941938	0.219251653	0.068846	0.142245

(v) For this step we will be calculating the performance score using the formula mentioned below-

$$P_i = \frac{S_i^-}{S_i^+ + S_i^-}$$

The performance score(P) is represented below-



Weightage	0.44	0.22	0.34			
Criteria	Impact	Need	Feasability	Si+	Si-	Perf. Score, P
Technique						
Flexible working hours	0.141825	0.0706453	0.083524439	0.175577	0	0
Performance assessment	0.1891	0.0971373	0.130506936	0.105636	0.071722	0.404393
Training & development	0.236375	0.1295164	0.177489433	0.041762	0.145722	0.777249
Benefit system	0.224556	0.0912502	0.109625826	0.116713	0.089164	0.433096
Working Environment	0.177281	0.0941938	0.219251653	0.068846	0.142245	0.673856

(vi) In the last step we will be providing “Ranks” to the five selected techniques on the basis of performance scores, the technique with the highest performance score is ranked 1, and the technique with the second-highest score is ranked 2, and so on.

Below we have presented the rankings provided to the HRM Techniques-

Weightage	0.44	0.22	0.34				
Criteria	Impact	Need	Feasability	Si+	Si-	Perf. Score, P	Rank
Technique							
Flexible working hours	0.141825	0.0706453	0.083524439	0.175577	0	0	<b>5</b>
Performance assessment	0.1891	0.0971373	0.130506936	0.105636	0.071722	0.404393	<b>4</b>
Training & development	0.236375	0.1295164	0.177489433	0.041762	0.145722	0.777249	<b>1</b>
Benefit system	0.224556	0.0912502	0.109625826	0.116713	0.089164	0.433096	<b>3</b>
Working Environment	0.177281	0.0941938	0.219251653	0.068846	0.142245	0.673856	<b>2</b>

The top three techniques for “small” business firms are highlighted in red as can be seen in the table above.

In a similar fashion, we will be calculating the ranks for the same set of five HRM techniques for “Medium” and “Big” size firms and the final ranks would be provided to them.

The final ranks obtained for “Medium” firm size are shown below-

Weightage	0.37	0.26	0.37				
Criteria	Impact	Need	Feasability	Plus	Minus	Perf. Score, P	Rank
Technique							
Flexible working hours	0.145862	0.1108152	0.148208565	0.05326	0.006926	0.115075	<b>5</b>
Performance assessment	0.177769	0.138519	0.180629189	0	0.05717	1	<b>1</b>
Training & development	0.154978	0.1108152	0.171366153	0.03705	0.025833	0.410809	<b>3</b>
Benefit system	0.173211	0.1142782	0.175997671	0.025097	0.04035	0.616533	<b>2</b>
Working Environment	0.173211	0.1038892	0.148208565	0.047656	0.027349	0.36463	<b>4</b>

The final ranks obtained for “Big” firm size are mentioned below-

Weightage	0.31	0.19	0.5				
Criteria	Impact	Need	Feasibility	Si+	Si-	Perf. Score, P	Rank
Flexible working hours	0.155036	0.0996351	0.210374129	0.037125	0.062406	0.627002	2
Performance assessment	0.155036	0.0847959	0.247498975	0.014839	0.07699	0.838404	1
Training & development	0.10465	0.0847959	0.228936552	0.05571	0.040815	0.422844	5
Benefit system	0.124029	0.0678367	0.235124026	0.046106	0.04745	0.507186	3
Working Environment	0.147285	0.0847959	0.191811706	0.05815	0.045884	0.441051	4

### CONCLUSION

After performing TOPSIS analysis we were able to obtain the top three HRM Techniques for three different firm sizes which are collectively represented in the table below-

Firm Size	Small	Medium	Big
Rank 1	Training & development	Performance assessment	Performance assessment
Rank 2	Working Environment	Benefit system	Flexible working hours
Rank 3	Benefit system	Training & development	Benefit system

Now we will provide a theoretical explanation for each of the techniques that came as top three in each firm size after we have performed the statistical TOPSIS analysis.

#### ➤ SMALL-SIZED FIRM-

- Training & Development-** This technique would have the highest influence on productivity as in a small-sized firm the number of employees is already few and if those few employees are not trained properly then they would fail to accomplish the task efficiently thus their productivity will decrease.
- Working Environment-** It is important because a small-sized firm already have less than 200 members so among such a small group if the social relations of employees with their management are not good then and the environment is stressed then the employee would not be able to give his best thereby his/her productivity will decrease.
- Benefit system-** Clearly if we provide extra perks to the employee like bonuses, gift vouchers etc on the basis of the quality of work he/she delivers then the employees would try to improve the quality of their work even more which will increase their productivity but it is ranked as three since it is not possible for a small size firm like startup to give extra perks.

#### ➤ MEDIUM-SIZED FIRM -

- Performance Assessment-** It is necessary to keep track of how an employee is performing by measuring his KPIs as it directly indicates how productive the employee is, so if performance assessment is done at regular intervals the employee would try to maintain his KPI which will increase his productivity and it is essential in a growing firm such as a medium-sized firm.
- Benefit system-** As is the case of small scale firm the benefit system would have a similar impact but here it is ranked 2 since for a medium-sized firm it is more possible to provide extra incentives than a small-sized firm
- Training Development-** For a medium-sized firm also it is necessary to train the newly recruited employee since their selection procedure is not highly efficient as that of a big firm so for the employee to work optimally training is required.

#### ➤ BIG-SIZED FIRM

- Performance Assessment-** Measuring the KPIs is highly essential in a big firm as it has a large number of employees so until and unless the KPIs of the employees are tracked properly their productivity can decrease.
- Flexible working hours-** As in a big firm the pressure and work load both increases so to remove that load flexible working hours can be provided in which they would work for say eight hours a day but not continuously as per their convenience.
- Benefit system-** It can be seen this criterion would always play a role in increasing productivity as the employee develops a tendency to deliver quality work since he/she would be awarded for that it is ranked third here even though it is easily feasible for a big firm to provide benefits as the above two mentioned criteria played a better role for influencing human productivity in this case.



We can also conclude that the benefits system i.e. providing the employee with extra benefits such as bonuses, free vacations, vouchers, or gifts if they deliver quality work is a common top three HRM techniques in each firm size, also training and development along with performance assessment( used to measure the KPIs of the employee) plays a major role in human productivity as they are repeated twice, then we have a working environment and flexible working hours which also have significant importance.

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