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**RESEARCH PAPER**

# Human Resource Management in Industrial Revolution 4.O

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**ABSTRACT**

The study highlights the influence of Fourth Industrial Revolution in HRM (Human Resource Management). To find the effect of Fourth Industrial Revolution on HRM functions such as Induction, training and development, recruitment and selection, performance management a quantitative approach was adopted where an online survey through questionnaire was conducted to highlight the views of HR professionals regarding Industry 4 impact on their organizations. The data was collected by HR experts working in different organizations having different experiences and working in different sectors. SPSS was used to analyze the study. The findings of this paper are organizations are incorporating Industry 4.0 components to make their HR functions more efficient and quicker. Direct impact on Industry 4 using Big data and artificial intelligence is foreseen in HR practice

## Introduction

Technologies are emerging and affecting our lives. Industry 4.0 or Fourth industrial revolution refers to developing an environment in which disruptive technologies and trends are changing the way we live and work. It builds on the foundations laid by the first three industrial revolutions. The fourth industrial revolution is the merging of the digital, physical and biological words through the emergence of extra ordinary technological advancements. These smart systems should integrate with organizations and people. The term fourth industrial revolution coined by Klaus Schwab, founder and executive chairman of the World Economic Forum, describes a world where people move between digital domains and offline reality with the utilization of connected technology to modify and

manage their lives (Puhovichova &Jankelova, 2020). Fourth Industrial revolution is quite different from the preceding three revolutions.

**The First Industrial Revolution**

It started at the end of 19th century. Massive technological advancements were made during this era. It helped the emergence of a new source of energy Electricity, gas and oil. The inventions of automobile and plane are considered as the most important (Rana & Sharma, 2019).

**The Second Industrial Revolution**

It started at the end of 19th century. Massive technological advancements were made during this era. It helped the emergence of a new source of energy Electricity, gas and oil. The inventions of automobile and plane are considered as the most important (Rana & Sharma, 2019).

**The Third Industrial Revolution**

The third industrial revolution used electronics and information technology to automate production (Xu et al., 2018).

**Components of Industry 4.0**

Industry 4.0 components can be categorized as technical components, social components and production components. Technical components can be used to make work and life easier. Social components focus on improvement of work quality and production components to increase the competitiveness of a country. The recent technological modification called as Industry 4.0 includes introducing AI, IOT, 3D Printing, cloud computing, CPS, Big data (Pandian, 2018).

**Cloud Computing (CC)**

Cloud computing is a technology that provides high performance. Now a day's organization are involved in complex decision-making activities requiring a large amount of data these organizations needed diverse computing resources. Cloud computing helps organizations to overcome such issues. Now organizations can save data in cloud servers. These all are supported by cloud computing and make complex decision making easier for organizations (Xu et al., 2018).

**Cyber Physical Systems (CPS)**

These are systems comprised of computers and other modern tools that control the physical production. CPS helps in smart monitoring and control. Smart Factories is one of the examples.(Bayraktar & Ataç, 2018)

**Internet of Things (IOT)**

IOT is the mapping of physical devices. The IOT is foreseen to provide advanced property of devices, systems and services that goes on the way facet machine to machine communications and covers a variety of protocols, domains and applications. (Xu et al., 2018). It enables advanced services by interconnecting visible and implicit things supported presented and evolving sensible information *(PDF) Internet of Things*, n.d.)

**3d Printing**

It is a method of making three attributable solid objects from a digital file. It is a process in which layers of materials are designed to create a 3D part. This is an alternative of subtractive manufacturing process. Using 3D process can be beneficial because it creates less material wastage (Cerika & Maksumic, 2017).

**Human Resource Management**

HRM can be marked as "A strategic approach for the management of the most valuable factor of an organization i.e.: Employees, who contributes for achieving organizational goals individually and collectively"(Puhovichova & Jankelova, 2020). HRM is responsible for carry on all features associated with the employees, from their recruitment to their termination. Employees working in industries and organizations are affected by the technologies brought by Industry 4.0. Human resources represent vital assets for any business. We contemplate human resources to be the important sources of company's competitive edge. By human resource the goals of the company are set on and the plan of action is developed and imposed later on (Puhovichova & Jankelova, 2020). The part of HRM is to ensure the people within the organization i.e., Employees are utilized just a way that it gives benefits to the employees and in return they get psychological and material rewards for their work (Panagiotopoulos, 2018).

**HRM in Fourth Industrial Revolution**

Industry 4.0 brings endless and limitless opportunities in the form of technological advancements through which organizations can adopt to work more quickly and efficiently. Innovative technologies like internet of things, artificial intelligence, big data are serving to automize most of the HR processes. It is transforming traditional HR into HR 4.0. Some of the HR functions are improving by using the following Industry 4.0 components.

**Artificial Intelligence**

Artificial Intelligence helps organizations to work quicker and efficiently to complete the work. Artificial Intelligence is stepping into several departments like HR department, IT department, and marketing and production department. With

using AI system organization will ready to inform the prevailing performance and day-after-day functions.

Artificial intelligence (AI) is an extended branch of technology concerned with building machines capable of performing tasks. HR professionals now a days are busy in mixing human and automated work to create an uncomplicated environment.

Employees productivity can be enhanced by using AI based HR tools. It focuses on employee's needs and end results.

**Applications of Artificial Intelligence in HR**

**Recruitment**

AI can be used to make the recruitment process simpler and more reliable. AI not only give advantage to the hiring company it can also benefit to the job applicant. The most difficult task for HR professionals is to seek out the suitable candidate for the organization.AI applications examine the resumes and reject the resumes which are not appropriate for the work and consider the resumes that worth for the organization.

**Training and Development**

AI is taking over Learning and Development (L&D) immensely. Human resource professional's center of attention is to design a standard learning and development programs that will help the employees to grow professionally by considering new trends and skills (George & Thomas, 2019)

**Employee Retention**

It is hard to keep retain the talent in organizations. AI can help HR professionals to be proactive they can determine the requirements and the future actions of the employees by using this technology. So, with this technology it is no more difficult to retain the employees(Chen et al., 2020)

**Performance Management**

Another difficult task to be done by HR professionals is to evaluate individual performances. Evaluation can lead to biasness. This biasness can be reduced by using the AI tools. Harmony and unity between the workers can be checked and monitored. It is now become easy for the HRs to supervise the employees and make the work more efficient.

**Big Data**

Big data in human resource management a be named as HR Analytics. It boosts some of the HRM functions like hiring of employees, compensation and benefits, training and development etc. Big data helps in supporting people related decisions.(Marler & Boudreau, 2017).BD put forward countless opportunities for the HR and it has become extremely helpful for the organizations who considers their human resource to be the most valuable.(Garcia-Arroyo & Osca, 2019).To achieve the business goals organizations are using big data and it permits the management of employees in the most systematic manner. Big data helps organization in:

**Application of Big Data in HR**

**Selecting and Hiring**

Finding skilled talents is a prolong process and requires a lot of efforts. Big data is now used to make this process easier and quicker. Big data supports to sort out numerous resumes and pick the desired ones.

**Performance and Compensation**

A substantial amount of data is to be collected for each employee to construct a performance management system in order to reward them individually. HR Analytics recommend some tools that can be used to make the compensation plans for the employees linked with their individual performances.

**Enhance Learning and Development**

Many organizations are using HR analytics to forecast the future needs comprising employee development and teach. The assessment of employee performances permits the analysis of strengths and weaknesses of individual employees. Organizations plan to enhance the competencies and expertise of employees. That is how it contributes to enhance the skills and competencies of employees (Huselid, 2018).

**Literature Review**

The industrial revolutions introduced many new inventions and transformations in the world.

To analyze the outcomes of the learning and responses on the research questions, literature review is intended to focus on the theories given by different researchers. The technological modification caused by the fourth industrial revolution had fabricated a vast gap between current capability of employees and the fast paced progressing needs of their roles, pushing a necessity to think about latest and even more effective approaches to enhance development (Whysall et al., 2019). Proper designed training those incudes suitable skills, understanding and vision is needed to perform an active role in searching, acquiring and maintaining

job. It will help the workers' profile to strengthen so that they can cope with the new challenges brought by fourth industrial revolution (Panagiotopoulos, 2018).

Cerika and Maksumic, (2017) studied "The effects of new emerging technologies on human resources" they mainly lightened the effects of modern inventions on the productivity of employees, they adopted a method named as Deductive qualitative Analysis (DQA) where they have found that there is a positive effect of new technologies on the productivity of employees. They also obtained that fourth industrial era is still at a stage of further development.

Another study based on "Changes in human resource management in context of fourth industrial revolution". The researchers introduced a new concept of "Smart HR 4.0" in this concept they emphasized the firms to put pressure on the alignment of HR processes with the dynamic technological environment.

The literature had further concluded that the Smart Management practices can uplift the learning and training of the employees (Pandian, 2018).

In an article named "The new talent management challenges of Industry 4.0" The researcher found out that fourth industrial revolution has brought major space connecting the current capabilities of the workforce with the required capabilities to cope with the challenges that is given by the technological change. In order to fill the gap organizations should contemplate latest and worthful techniques to talent growth"(Whysall et al., 2019).

Rana and Sharma, (2019) also suggested that organizations will guarantee their continuance by focusing on "Employees" They further added that the HR department should go ahead to embrace the technological changes. As demonstrated in Bayraktar and Ataç, (2018) study, it is become difficult for the organizations to find skilled workers and keep them at work. The best thing the organizations can do is to invest in technologies and they should increase their capabilities as well as their employee's capabilities.

## Material and Methods

### Research Design

RD describes the method involving in collecting data and the process of analysis for the research in the light of industry 4.0. I adopted a strategy of using quantitative analysis for my research. The study was based on primary data. A thorough research was conducted to collect articles from various data basis like research papers, published materials, online websites. The study also adopted a survey-based method in which questionnaire was made. My study was focused on HR professionals from different organizations so the questionnaire has been asked to fill by HR professionals from varied sectors.

**Sample Selection**

For this study, I selected respondents who had an insight of fourth Industrial revolution technologies, development and implications. 157 people responded to the questionnaire.

**Statistical Technique**

In this research paper Descriptive data analysis technique was used that helped in describing the summary of the data. The types of descriptive analysis used were measures of central tendency (It helped in showing average(mean) and most commonly indicated responses(mode)) and measures of dispersion that is standard deviation (it helped in finding the average distance between the values of the data set and the average, higher value of standard deviation indicated the high variation from the average responses. The data was analyzed using SPSS.

**Pictorial Representation of Data**

In this research paper data was represented by using pie charts that displayed data in circular graphs. It really helped to show relative sizes of the responses.

**Results and Discussion**

**Table 1**

**Industry 4.0 have an impact on HR practices**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 2 | 1.3 | 1.3 | 1.3 |
| | Disagree | 5 | 3.2 | 3.2 | 4.5 |
| | Neutral | 34 | 21.7 | 21.7 | 26.1 |
| | Agree | 71 | 45.2 | 45.2 | 71.3 |
| | strongly agree | 45 | 28.7 | 28.7 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.968 | |
| | Std. Deviation | | | .8654 | |

Table 1 shows that the majority of people agree that Industry 4. HR practices are influenced by Industry 4.0, 21.7% are indifferent and only 4.4% contradicts. The mean, median and mode are also showing agreement with the statement.

**Table 2**

**What level of automation/digital transformation has taken place in your organization?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 25% automated | 17 | 10.8 | 10.8 | 10.8 |
| | 50% automated | 26 | 16.6 | 16.6 | 27.4 |
| | Not at all | 7 | 4.5 | 4.5 | 31.8 |
| | 75% automated | 53 | 33.8 | 33.8 | 65.6 |
| | 100% automated | 54 | 34.4 | 34.4 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 2.96 | |
| Std. Deviation | | | | .996 | |

Table 2 shows that automation has taken place in industry to a vast extent. 33.8% and 34.4% respondents believe that automation has taken place 75% and 100% respectively. The mean and median are showing that the automation has taken to the extent of 75% whereas mode indicates that 100% automation has taken place in HR practices.

**Table 3**

**Would you say that the use of new emerging technologies requires special skills or competencies?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 2 | 1.3 | 1.3 | 1.3 |
| | Disagree | 9 | 5.7 | 5.7 | 7.0 |
| | Neutral | 34 | 21.7 | 21.7 | 28.7 |
| | Agree | 77 | 49.0 | 49.0 | 77.7 |
| | strongly disagree | 35 | 22.3 | 22.3 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 3.854 | |
| Std. Deviation | | | | .8757 | |

Table 3 shows the majority of the respondents are of the view that new emerging technologies require special skills. Mostly (49%) and secondly (22.3%) agrees and strongly agree that special skills or competencies require to use the new emerging technologies. The mean, median and mode also indicate that most are of the view that employees should have better understanding and knowledge to make most of the advancement made in the field.

**Table 4**

**HRM practices are improving by using Industry 4 technologies/ components**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 5 | 3.2 | 3.2 | 3.2 |
| | disagree | 4 | 2.5 | 2.5 | 5.7 |
| | neutral | 44 | 28.0 | 28.0 | 33.8 |
| | agree | 71 | 45.2 | 45.2 | 79.0 |
| | strongly agree | 33 | 21.0 | 21.0 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 3.783 | |

| | | |
|---|---|---|
| Std. Deviation | .9151 | |

Table 4 shows that HRM functions are converted from traditional to smart HR functions with the use of latest technologies that has been brought by industry 4.0Whereas 28% respondents are indifferent of the changes. The mean, median and mode show that respondents agree to the improvement in HRM practices.

**Table 5**

**Current HRM practices need to be changed/ adopted in your organization.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | disagree | 10 | 6.4 | 6.4 | 6.4 |
| | neutral | 25 | 15.9 | 15.9 | 22.3 |
| | agree | 69 | 43.9 | 43.9 | 66.2 |
| | strongly agree | 53 | 33.8 | 33.8 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 4.051 | |
| Std. Deviation | | | | .8682 | |

Table 5 shows43.9% respondents are of the view that organizations need to incorporate industry 4.0 components in their HRM functions to bring the changes as per the need of the era. Whereas 33.8% respondents highly emphasized for the change/adaptation. Respondents who are not in the favor or neutral for the change are less in numbers. The mean, median and mode are strongly directed towards a positive view to change.

**Table 6**

**Your organization has implemented modern methods for recruitment.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 2 | 1.3 | 1.3 | 1.3 |
| | Disagree | 12 | 7.6 | 7.6 | 8.9 |
| | Neutral | 30 | 19.1 | 19.1 | 28.0 |
| | Agree | 68 | 43.3 | 43.3 | 71.3 |
| | strongly agree | 45 | 28.7 | 28.7 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 3.904 | |
| Std. Deviation | | | | .9459 | |

Table 6 shows majority of the respondents are of the view that organizations have implemented modern techniques in recruiting the most suitable candidates. While 19.1% are neutral and very small section disagrees with the statement. The average result shows that mostly participants agree with the view but high standard deviation indicates the less reliability in the result.

**Table 7**

**Your organization is investing more on training and development of employees to make them ready for the challenges brought by Industry 4.0.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 6 | 3.8 | 3.8 | 3.8 |
| | disagree | 11 | 7.0 | 7.0 | 10.8 |
| | neutral | 32 | 20.4 | 20.4 | 31.2 |
| | agree | 72 | 45.9 | 45.9 | 77.1 |
| | strongly agree | 36 | 22.9 | 22.9 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 3.771 | |
| Std. Deviation | | | | 1.0056 | |

Table 7 shows that the organizations have become aware of the need to train and develop their workforce to cope up with the technological change and advancement. Some say that the organizations are not making investment on development of their employees. The mean, median and mode show that the organizations are investing in their employees.

**Table 8**

**Dependency on machines has been increased with the evolution of Industry 4.0**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | disagree | 4 | 2.5 | 2.5 | 2.5 |
| | neutral | 40 | 25.5 | 25.5 | 28.0 |
| | agree | 67 | 42.7 | 42.7 | 70.7 |
| | strongly disagree | 46 | 29.3 | 29.3 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 3.987 | |
| Std. Deviation | | | | .8085 | |

Table 8 shows that 42.7% and 29.3% respondents agree and strongly agree that the dependency has increased on machines where as a large number about 25% respondents have no views. The mean, median and mode show agreement with the view.

**Table 9**

**Organizations should keep up with latest technologies to enhance their growth opportunities**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | disagree | 3 | 1.9 | 1.9 | 1.9 |
| | neutral | 29 | 18.5 | 18.5 | 20.4 |
| | agree | 67 | 42.7 | 42.7 | 63.1 |
| | strongly agree | 58 | 36.9 | 36.9 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 4.146 | |

| | |
|---|---|
| Std. Deviation | .7830 |

Table 9 shows that 42.7% and 36.9% respondents believe that organizations must equip themselves with latest technologies to enhance their growth chances. The mean, median and mode shows agreement with the need to keep themselves with the modern equipment to build their chances of growth.

**Table 10**

**Your organization's Performance Management system.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | very poor | 1 | .6 | .6 | .6 |
| | poor | 8 | 5.1 | 5.1 | 5.7 |
| | average | 39 | 24.8 | 24.8 | 30.6 |
| | good | 70 | 44.6 | 44.6 | 75.2 |
| | very good | 39 | 24.8 | 24.8 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 3.879 | |
| Std. Deviation | | | | .8649 | |

Table 10 shows that 24.8% and 44.6% respondents say that their organization's PMS is very good and some that it is good. 24.8% says that their organization's PMS is average and about 6% believe that their organization's system is not up to mark. The mean median and mode show the organization's system is GOOD.

**Table 11**

**Learning and Development programs are designed according to recent changes and trends**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 136 | 86.6 | 86.6 | 86.6 |
| | No | 21 | 13.4 | 13.4 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 1.134 | |
| Std. Deviation | | | | .3415 | |

Table 11 shows that a huge number i.e., 86.6% respondents are of the view that the organization are designing their learning and development program according to the recent changes and trends.

**Table 12**

Job design is keep updating as per the requirement of Industry 4.0

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 4 | 2.5 | 2.5 | 2.5 |
| | disagree | 4 | 2.5 | 2.5 | 5.1 |
| | neutral | 46 | 29.3 | 29.3 | 34.4 |
| | agree | 68 | 43.3 | 43.3 | 77.7 |
| | strongly agree | 35 | 22.3 | 22.3 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 3.803 | |

| | | |
|---|---|---|
| | Std. Deviation | .9018 |

Table 12 shows that 43.3% and 22.3% respondents agreed and some strongly agreed that the job design is updating in the industry as per the requirements. But 29.3% are neutral and 2.5% disagree with the statement. The mean median and mode show that respondents agree with the statement but high standard deviation shows weakness of the result.

**Table 13**

**Your knowledge about Artificial Intelligence.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | very poor | 1 | .6 | .6 | .6 |
| | poor | 3 | 1.9 | 1.9 | 2.5 |
| | average | 53 | 33.8 | 33.8 | 36.3 |
| | good | 71 | 45.2 | 45.2 | 81.5 |
| | very good | 29 | 18.5 | 18.5 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.790 | |
| | Std. Deviation | | | .7847 | |

Table 13 shows that mostly respondents have strong knowledge about Artificial intelligence. Very few have poor or no knowledge of it. The average result shows respondents have good knowledge of artificial intelligence.

**Table 14**

**Your knowledge about HR Analytics.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | very poor | 4 | 2.5 | 2.5 | 2.5 |
| | poor | 5 | 3.2 | 3.2 | 5.7 |
| | average | 41 | 26.1 | 26.1 | 31.8 |
| | good | 65 | 41.4 | 41.4 | 73.2 |
| | very good | 42 | 26.8 | 26.8 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.866 | |
| | Std. Deviation | | | .9344 | |

Table 14 shows that majority respondents have very strong knowledge of HR analytics. Very few respondents have poor or very poor knowledge of HR analytics. The mean median and mode value shows respondents have good knowledge of HR Analytics but high value of standard deviation shows high variation from average response.

**Table 15**

**Employee retention policies are improved.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Vali | strongly disagree | 1 | .6 | .6 | .6 |

| | | | | | |
|---|---|---|---|---|---|
| d | disagree | 11 | 7.0 | 7.0 | 7.6 |
| | neutral | 46 | 29.3 | 29.3 | 36.9 |
| | agree | 68 | 43.3 | 43.3 | 80.3 |
| | strongly agree | 31 | 19.7 | 19.7 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.745 | |
| | Std. Deviation | | | .8764 | |

Table 15 shows that during the industry 4.0 era respondents agree that the employee retention policies are improved. Some are neutral and very few strongly disagree. The mean median and mode value shows agreement and strongly agreement but high value of standard deviation shows high variation from average response.

**Table 16**

**Decision making process is improved using new approaches.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 1 | .6 | .6 | .6 |
| | disagree | 6 | 3.8 | 3.8 | 4.5 |
| | neutral | 36 | 22.9 | 22.9 | 27.4 |
| | agree | 69 | 43.9 | 43.9 | 71.3 |
| | strongly agree | 45 | 28.7 | 28.7 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.962 | |
| | Std. Deviation | | | .8540 | |

Table 16 shows that very high number of respondents agreed and strongly agreed that the decision-making process is improved using new approaches. 22.9% respondents are indifferent of the view. The mean median and mode value shows respondents have good knowledge of HR Analytics but high value of standard deviation shows high variation from average response.

**Table 17**

**Industry 4.0 revolution helps management to map individual performance and compensate them accordingly.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 1 | .6 | .6 | .6 |
| | disagree | 5 | 3.2 | 3.2 | 3.8 |
| | neutral | 49 | 31.2 | 31.2 | 35.0 |
| | agree | 70 | 44.6 | 44.6 | 79.6 |
| | strongly agree | 32 | 20.4 | 20.4 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.809 | |
| | Std. Deviation | | | .8175 | |

Table 17 shows that high number of respondents is neutral of the view. 44.6% agreed and 20.4% Strongly agreed with the statement. The mean median and mode value shows respondents believe that the revolution has helped management to map

individual performance and compensate them but high value of standard deviation shows high variation from average response.

**Table 18**

**Selection of employees has become less time consuming and efficient.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 1 | .6 | .6 | .6 |
| | disagree | 11 | 7.0 | 7.0 | 7.6 |
| | neutral | 31 | 19.7 | 19.7 | 27.4 |
| | agree | 63 | 40.1 | 40.1 | 67.5 |
| | strongly agree | 51 | 32.5 | 32.5 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.968 | |
| | Std. Deviation | | | .9297 | |

Table 18 shows that industry 4.0 revolution has made selection of employees less time consuming and efficient. It is agreed by 40.1% respondents and 32.5% strongly agree. The mean median and mode value shows agreement and strongly agreement but high value of standard deviation shows high variation from average response.

**Table 19**

**New techniques of Performance Management system have reduced biasness within the work environment.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 4 | 2.5 | 2.5 | 2.5 |
| | disagree | 12 | 7.6 | 7.6 | 10.2 |
| | neutral | 44 | 28.0 | 28.0 | 38.2 |
| | agree | 62 | 39.5 | 39.5 | 77.7 |
| | strongly agree | 35 | 22.3 | 22.3 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| | Mean | | | 3.713 | |
| | Std. Deviation | | | .9809 | |

Table 19 shows that more than 60% respondents agree and strongly agree that the new technique of performance management system has reduced biasness within the work environment. But about 30% respondents are neutral or disagree with the system. The mean median and mode value shows respondents believe that the revolution has helped management to map individual performance and compensate them but high value of standard deviation shows high variation from average response.

**Table 20**

**With the use of new technologies our HRM practices are becoming more efficient and quicker.**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | strongly disagree | 1 | .6 | .6 | .6 |
| | disagree | 4 | 2.5 | 2.5 | 3.2 |
| | neutral | 35 | 22.3 | 22.3 | 25.5 |
| | agree | 59 | 37.6 | 37.6 | 63.1 |
| | strongly agree | 58 | 36.9 | 36.9 | 100.0 |
| | Total | 157 | 100.0 | 100.0 | |
| Mean | | | | 4.076 | |
| Std. Deviation | | | | .8663 | |

Table 20 shows that more than 70% respondents strongly agree and agree that the HRM practices are becoming more efficient and effective during the era of industry 4.0. Only 25% are neutral and disagree with the view. The mean median and mode value shows respondents believe that the HRM Practice has become efficient and effective but high value of standard deviation shows high variation from average response

## Conclusion

Information technology has a greater impact on organizations working in a dynamic environment. We evolved a study on the phenomenon to contribute to the prevailing knowledge of the industry. Best use of IT can lead to greater efficiency and effectiveness of the human resources. With this research it is identified that the effect of Industry 4.0 on HRM is increasing and most of the organizations are adopting the changes brought by Industry 4.0. Some of the major HRM functions like: Recruitment, Training and development, Job designing, Employee retention, Performance measurement are turning for the improvement and moved from traditional HRM practices to Modern and Smart HRM practices. Managers are making better decisions by using Industry 4.0 components and it helps them in making the best use of resources, employee satisfaction and engagement will improve. HRM functions are improving and become more efficient with the use of Industry 4.0 components.

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