



35. The Next Industry Revolution Industry – 5.0 The Human Focused Solutions for Sustainable Growth and Development

G. Sathyamoorthy

*Assistant Professor, Faculty of Management Studies,
Dr. MGR Educational & Research Institute,
(Deemed To be University), Chennai.*

Dr. Senthilmathi. M.

*Research Supervisor, Assistant Professor,
Department of Commerce, Dr. MGR Educational & Research Institute,
(Deemed To be University), Chennai.*

Introduction:

We had agriculture revolution, Industrial revolution in India. Now the next revolution will be focused on human focused solutions for sustainable growth and development. For that to happen there is a need for skill development training and programs to the new generation. It is of national importance and socio-economic development of each country. This will take India into greater heights. The momentums will pickup for the skill development of the youth. There will be focused attention on the needs for human development. The skill development will link our Indian culture for our needs and also rest of the world. It will also lead to improvement of human resources and up-skilling for the development of nation. India had a lot of relations with other countries and it's time to rejuvenate the same. The use of digitalization in every field is leading to industry 5.0 in improving humanization and sustainability of industry 4.0. It uses a set of technologies for creating cyber physical systems and supply chain.

Germany, European countries and others have spent a lot in digitalization with 5G going to be in place, it's a time, there is need for sustainability of the industry for preparing vision 2030. In industry 4.0 bibliometric analysis of Web of Science using Vos viewer tools, Excel and content analysis of selected papers were applied. It is a method of evaluating research results. It uses quantification of qualitative data and indicators of various data the development trends in leading to evolution of industry 4.0 to industry 5.0 concept.

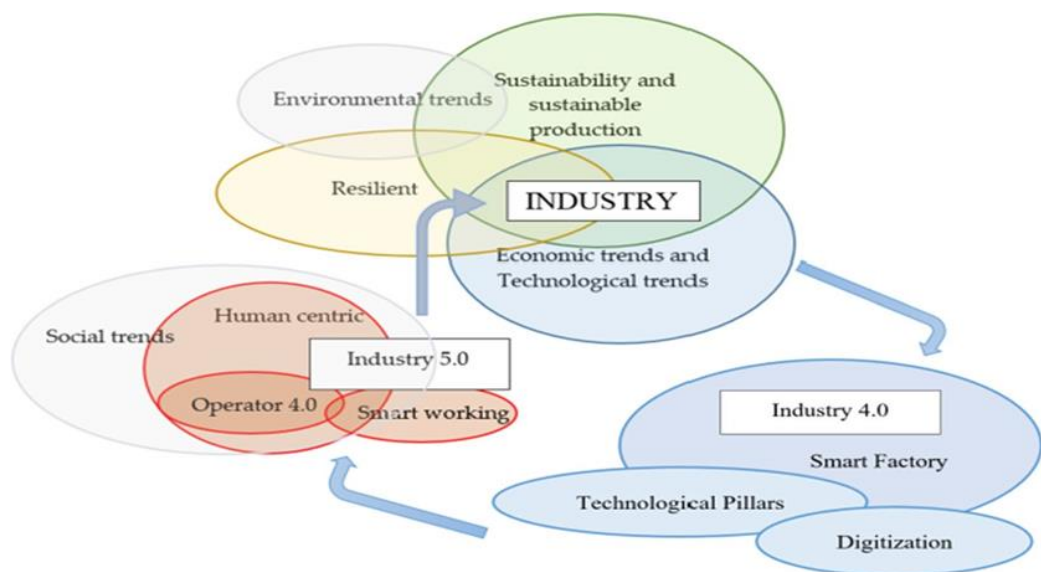
Industry 4.0 means the integration of intelligent machines and systems changes in production process are done. This will lead to increased efficiency in every production process and its applications.

Industry 4.0 has created technologies changes it is visible in production areas and users of market. Therefore, it has led to severe competition among all sections.

Industry 4.0 is leading to sustainable industrial value creation. It embraces consumers, economy etc. with more technology and production efficiency in place it leads to dehumanization of production systems 5.0 lead to integration of human-machine interfaces using artificial intelligence (AI), production will not be operated by robot system. Integration of human and machine works will leads to productivity. The placement of the human factor integration into the technology of Industry 4.0 is the beginning of the transformation to Industry 5.0. Set C' (Figure) is formed, based on bibliometric analysis, by publications obtained for the keywords "Human factor in Industry 4.0" and "Human-centered" in the topics of these papers:

Di Nardo, M.; Forino, D., Murino, T. The evolution of man-machine interaction: the role of human in industry 4.0 paradigm. Times cited: 6 (from Web of Science Core Collection);

Nelles, Jochen; Kuz, Sinem; Mertens, Alexander; et al. Human-centered design of assistance systems for production planning and control. Times cited: 2 (from Web of Science Core Collection.

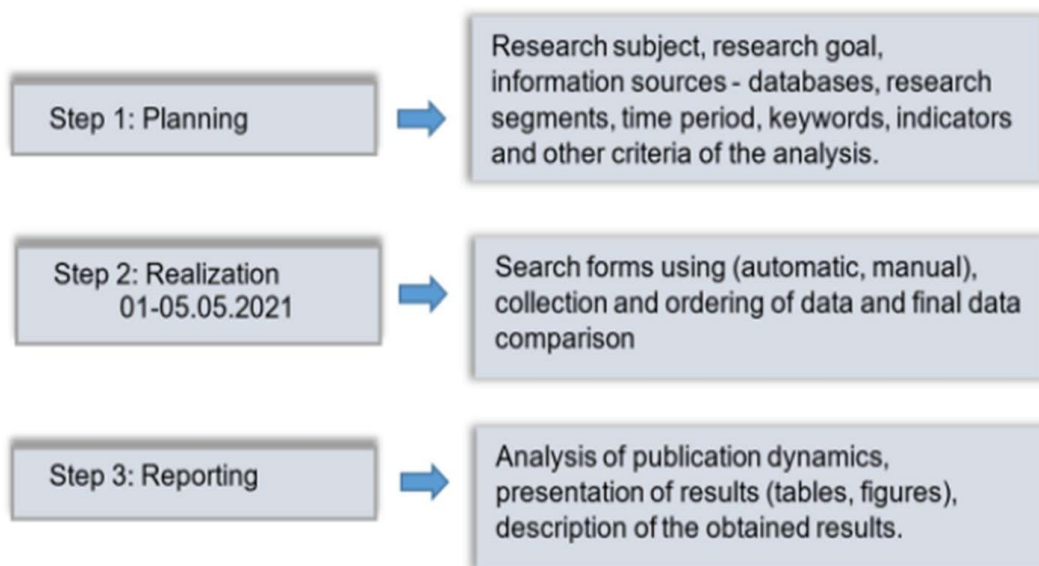


According to an Accenture survey as many as 85% of 500 manufacturing company executives, there will be standardization of work for workers and robots. They must work in close. Coordination here the rule of HR is coming in. There is need for talent management. Skill Development will lead to sustainable growth in our economy. Here growth indicates increase in the demand for employability, optimum utilization of human resources. At the same time the growth of human resources will commensurate with need for the industry to give impetus for the growth of industry. Already more than 1.25 crores of the population has been up-skilled. It's time for the corporate to spend a portion of the net profit under corporate social responsibility. It will help them not only the respective industry but an improvement in human resources of the economy.

Some of the routine work of HR will be dismantled. It is a challenge that Industry 5.0 will have more interaction of the human staff with machines.

This will lead to more jobs, Training, development of the staff will increase. This will lead to increased demand for skill development and higher wages. It will lead to higher standard of living. Already many corporates have initiated programs. Companies spend as CSR activities. They spend a portion of their net profits on CSR activities.

There should be Planning of activities. It should lead to its Realization. MIS is be prepared for implementation.



Initially, human centric analysis was done. Now, research is being done for its sustainability.: Managers of companies are for its sustainability as it involves cost element. Human focused solutions will guide in the actual operational implementation of our needs. Learning is a continuous work in progress for countries.

Only the skilled person will grow and there will be continuous demand for the workers. It's applicable not only to individuals but also for countries. This can be seen the demand for Information technology, BPO, KPO and other related areas. Next area is "Resilient". It means flexibility. It has become more important after Covid 19(Pandemic diseases) During the Corona period our medical professionals and health care staff showed exemplary courage, conviction and speed for controlling it. We exported medicines to other countries. It shows our ability of our human resources. From this, it can be seen that human approach is brought in along with the technological development. Human resources command a premium now.

In implementing, there are challenges: First one is recruitment of the right candidate for the job. Therefore, there is a challenge and opportunities in terms of sourcing and retention. Recruiters must be in consonance with the current trend, skill and thinking.

Learning and Development: There should be virtual learning and development programs for the workers, staff and management executives. Retention: Attrition must be reduced. It is critical for the management by retention. The management can move them to critical areas of production.

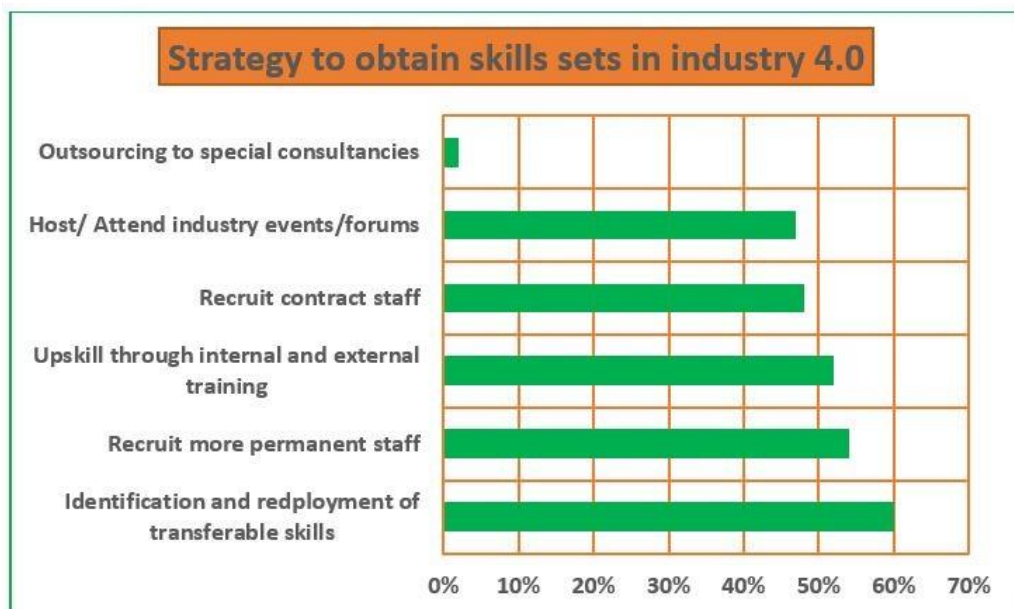
Talents have to be nurtured and retained so that the number 1 slot is with us. There is need for innovation, growing, skill need for innovation, growing, skill development, identification of short comings to overcome it.

The today challenge is how to recruit for the new job roles that have been brought about by the fifth industrial revolution. Also, this has brought about challenges and opportunities in every field and sector, including in terms of the sourcing and retention of key skilled personnel and senior executives who can adopt the changes in every level of management.

Companies should consider innovative approaches to recruiting that focus on competences, rather than qualifications determined by degrees and roles

“According to the McKinsey Global Institute report, by 2030, 375 million workers—or roughly 14 percent of the global workforce—may need to switch occupational categories as automation, digitization, and advances in artificial intelligence disrupt the world of work.”

The below mentioned figure shown about the strategy to obtain skills sets in Industry 4,0



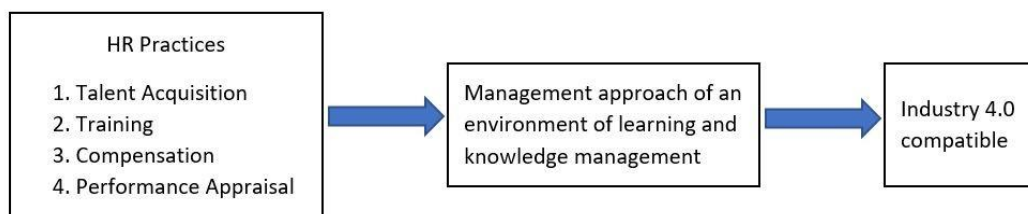
Industry 4.0 has transformed every phase of the process from production to distribution. Human resource management gets affected due to this. Employees play a vital role in the organization now. Due to automation, new responsibility falls on the employees. If it is not done through proper training, management may find it difficult to implement in future.

Our youth has potentialities in all fields. Our Ancient culture throws light on it. There is need for skilled professions like carpenters, weavers, electrician, plumbers, Gardeners etc. Due to slavery its importance was not recognized.

Emerging technologies like Artificial Intelligence, Big Data, Data Science, Cloud etc., will automate most of the Human Resource processes, resulting in efficient HR teams will be created in every organization.

Also, leadership style and organization structure changes would be required for efficient Human Resource 5.0 implementation that would allow HR departments to play a more strategic role in the overall organization growth.

Innovation is an essential aspect in this Industry 5.0 era. Innovation is dependent on people's capability which is facilitated by learning and knowledge. The HR management approaches can be revamped as shown below.



“The human spirit must prevail over technology.” – Albert Einstein.

Recruitment:

High Technology and i phones are leading to the development of intelligent ways to select the individual preferences for the job requirements needed. In this process artificial intelligence helps them to gather the necessary data. It means the requirements needed for the job.

Interview techniques getting automated and customize. It enables the aspirants connect through electronic mails (Gmail, Hotmail, etc.,) videoconference (example gmeet, zoom, WebEx etc.,)

The candidate's ability is verified in real time. In this way the number of people to be called for interview is chosen according to the needs. Induction program is adopted aspirants on the needs of the individuals.

Talent Development:

Knowledge creation and skill development is absolute necessary in today competitive environment. Artificial Intelligence will fill the gaps that's leading to optimization of human resource management. It will lead to career planning. With proper training the necessary objectives and the needs of human resources can be achieved.

The artificial intelligent will try to identify the needs of individual and not as group. This will set the trend for fixing the compensation on the base of demand and supply.

Appraisal and Evaluation:

The performance appraisal system must be objective wise not subject wise. Employees must be given their feedback. It will help them to get the feedback and improve upon the career. It must be based on the vision of the company. It must be influenced by objective of the company and

Ways to achieve it through mutual discussion.

In the event of termination of employment, the human resources department must take steps to avoid the attrition of better perform employees. Necessary opportunities must be given for the growth. The human resource department must take into consideration, the management approach and organizational growth.

Recruitment of Talents to The Company:

- Intelligent job search applications
- Automatic search for CVs using AI
- Automated and customized testing
- Interview via video chat
- Induction programs via AR / VR
- Talent development in the company
- Identification of gaps in AI capability
- Virtual training anytime, anywhere
- Continuous performance feedback
- Data-compensated compensation
- Applications for the welfare of employees Evaluation of employee performance
- Evaluation system focused on employee development
- A behavioral approach
- Performance feedback
- Management by objectives – MBO Termination of employment
- Reduction of wear and tear caused by analytics
- Data-oriented identification of persons Organizational structure and leadership styles
- Slimming the hierarchy
- Agile and decentralized teams
- Multi-generation employee management
- Open and data-based style

Due to automation all process gets changed, ie from raw materials to finished product. The consumer expectation is changing fast. Competition is severe, there is a pressure is cost to reduce it. So human being and technologies must work together in harmony. Each unit has to work in a coordinated manner. Depending on the situation business units have to change their modalities. Thus, improving humanization and sustainability is the order of the day.

Finally focusing on the human resources, the needs of every individual is tapped on the basis of their skills they possess Therefore the future revolution will be human focused solutions for growth.

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