

## A Global Revolution of Work with Smart Hr 4.0

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### **ABSTRACT**

Today's workforce focuses on successful Smart HR 4.0 strategy to cope up with Industry 4.0 transformation challenges. Industry 4.0 is a vision that evolved from an initiative to make the German manufacturing industry more competitive to a globally adopted team. The emerging technologies will automate most of the HR processes resulting in efficient and leaner HR teams. Companies are equipped with new levels of innovation and growth when thoughtfully designed and intelligently deployed in order to achieve competitive advantage. But to get there, company leaders should be forward-thinking about their HR strategies, and always mindful of their people. An agile workforce is the necessity in the growing scenario of automation. In this article, we recommend that organization start thinking about what's authentic in the way being more proactive in managing talents. The contribution of this research is that there lies a strong bond between new educational requirements of Industry 4.0 and thereby organizations adoption level should be improved.

**Keywords:** *Industry 4.0, SMART HR 4.0, Industrial Revolution 4.0.*

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### **MAIN TEXT**

#### **1. INTRODUCTION:**

Industries are the backbone of a nation's economy and the world has already witnessed three industrial revolutions in the past that stemmed from major technological breakthroughs over the past three centuries. Undergirding the development of modern Europe between the stage of 780s and 1850 was a remarkable economic transformation that embraced the first stage of INDUSTRIAL REVOLUTION. The Industrial Revolution began in Great Britain and it swiftly spread

throughout the world. The Industrial Revolution transformed economies that was based on agriculture and handicrafts into economies based on large-scale industry, and the factory system. All new machines, power sources and numerous ways of organizing work which made existing industries more productive and efficient.

Industry 4.0 and SMART HR are two widely discussed topics by leading organizations today. An increasing number of companies are beginning to understand a very basic but indeed very powerful formula; the companies must

require a successful SHR 4.0 strategy to cope up with transformation challenges. Both, organization structure and leadership style changes would be required for efficient SHR 4.0 implementation allowing HR departments to play a more strategic role in the overall organization growth.

## **2. REVIEW OF LITERATURE:**

### **Concepts of Industrial Revolution, Industry 4.0, Smart HR 4.0**

#### **INDUSTRIAL REVOLUTION:**

It has been said that Industrial Revolution is the most profound revolution in human history as its sweeping impact on people's daily lives. The term Industrial revolution is succinct to describe a historical period starting in 18<sup>th</sup> century to describe **Britain's economic development**. It also involved more subtle practical improvements in various field affecting labor, production and resource.

#### **INDUSTRIAL REVOLUTION 4.0:**

In the twenty-first century, Industry 4.0 heralds the innovation of both smart business and smart factory (Shamim et al., 2016). The Fourth Industrial Revolution, the ongoing phase in the Industrial Revolution which describes a high-technology strategy proposed by the German government. It refers to the emergence of a range of new digital industrial technologies (Rubmann et al, 2015). The term "FOURTH INDUSTRIAL REVOLUTION" was coined by the founder of the World Economic Forum, a former professor named **Klaus Schwab**.

Industry 4.0, the era of digitization means opportunities and challenges. Business in all industries face challenges to embrace digital transformation and certain measures are obligatory to be ensured to overcome the

security challenges and move forward with the Fourth Industrial Revolution

### **SMART HR 4.0:**

HR 4.0 is a new revolution in the era of Human Resource where HR has become more automated, focusing on strategic issues. Smart HR 4.0 paints a vivid canvas for digital transformation in the HR functions of recruitment, onboarding, learning and development, social sharing, and crowd-sourced feedback based on "people science." Smart Human Resources 4.0 (SHR 4.0) is a new concept that is evolving as a part of the overall 4th Industrial Revolution and characterized by innovations in digital technologies such as Internet-of-Things, robotics, Big Data Analytics, and artificial intelligence (AI), 3D printing, augmented reality and fast data networks such as 4G and 5G for the effective management of next-generation employees (Hecklau et al., 2016).

## **3. RESEARCH METHODOLOGY**

The researcher has made use of the Ex-post Facto research design for this study. The sampling technique used to select samples was Non-Probability Sampling method- Purposive sampling technique. The population includes employees across (15 Fortune 500 List companies) IT sectors Worldwide. The researcher has adopted a self-constructed scale and a standardized scale on self-efficacy developed by Schwarzer and Jerusalem (1995) consisting of ten (22) items and sample size was N=150.

Cronbach's alpha is a commonly used measure of reliability for a set of two or more construct indicators. With values ranging from 0 to 10, the higher values indicate a higher reliability among

the items.

CRONBACH'S ALPHA	NUMBER OF ITEMS
0.912	30

### **3.1 OBJECTIVES OF THE STUDY:**

#### **PRIMARY OBJECTIVE:**

To ascertain the relationship between Industry 4.0 and Smart HR 4.0 strategy in IT sector.

#### **SECONDARY OBJECTIVES:**

1. To understand various Efficient and faster HR operations to be processed to rival with Industrial Revolution 4.0.
2. To Attract, develop, and retain new-age talent employees in the area where skills are missing.
3. To find the way in managing multi-generational employee expectations in the organization globally.
4. To identify the mindset of Industry 4.0 in HR

### **3.2 HYPOTHESES OF THE STUDY:**

1. There is no significant difference between the age with regard to adoption of digital tools.
2. There is no relationship between level of contribution and current level of Industry 4.0.

		Level of Contribution	Current level of Industry 4.0
Level of Contribution	Pearson Correlation Sig. (2-tailed)	1	.568" (.000)
Current level of I4.0	Pearson Correlation Sig. (2-tailed)	.568" (.000)	1

3. There is no significant difference in Implementation and phase of digitization of Industry 4.0
4. There is no relationship between Importance of re-skilling and Need to improve skills.

### **4. RESULTS AND DISCUSSION:**

#### **4.1. Demographic Profile of the Respondents:**

A majority of the respondents (63%) were Gen Y participants and around (29%) of the respondents were Gen Z.

#### **4.2. STATISTICAL ANALYSIS**

##### **4.2.1. Chi-Square Analysis:**

##### **Table No.4.2.1**

**Significant association between age with regard to adoption of digital tools.**

	Value	df	Sig, Value
Pearson Chi-Square	67.080	2	.000

#### **INFERENCE:**

It can be inferred from the above table no.4.2.1, that the significant association between age and with regard to adoption of digital tools was found to be 0.000 is less than 0.05 level of significance; hence we reject H0 and conclude that there is a significant association between age and with regard to adoption of digital tools. Thus, it is evident that age has a positive effect on adoption of digital tool

#### **4.2.2. Correlation Analysis**

##### **Table No.4.2.2**

**Correlation between Level of contribution and Current level of Industry 4.0**

\*\*. Correlations significant at the 0.01 level (2-tailed).

#### INFERENCE:

It can be inferred from the above table no.4.2.2, that the correlation for Level of contribution and Current level of Industry 4.0 was found to be 0.568 and the p-value is 0.000 respectively. Since  $p < 0.05$ , the alternate hypothesis "There is a significant relationship between Level of contribution and Current level of Industry 4.0 is accepted. This indicates that "as Level of contribution in organization increases the current level would also simultaneously increase". Thus, it is evident that Level of contribution has a positive effect on Current level of Industry 4.0.

#### 4.2.3. t-test Analysis:

**Table No.4.2.3**

**Paired t test values between Implementation**

		Importanc e of Re- Skilling	Need to improv e
Importanc e of Re- Skilling	Pearson Correlatio n Sig. (2- tailed)	1	.671" (.000)
Need to improve	Pearson Correlatio n Sig. (2- tailed)	.671" (.000)	1

**and phase of digitization of Industry 4.0.**

	Mean	t	Df	Sig. (2- tailed)
Implementation				

&Phase of digitization	.453	3.191	149	0.002
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#### INFERENCE:

It can be inferred from the above table no.4.2.3, that the probability value is 0.002 is less than 0.05 alpha values; therefore the alternative hypothesis "There is a significant difference in Implementation and phase of digitization of Industry 4.0" is accepted. And we conclude that there is a significant difference in the Implementation and Phase of digitization. Thus, it is evident that implementation have a positive effect on current phase of digitization.

#### 4.2.4. Correlation Analysis

**Table No.4.2.4**

**Correlation between Importance of re-skilling and Need to improve skills**

\*\*. Correlations significant at the 0.01 level (2-tailed).

#### INFERENCE:

It can be inferred from the above table no.4.2.4, that the correlation for Importance of re-skilling and Need to improve skills was found to be

0.671 and the p-value is 0.000 respectively. Since  $p < 0.05$ , the alternate hypothesis “There is a significant relationship between Importance of re-skilling and Need to improve skills is accepted. Thus, it is evident that re-skilling have a positive effect on need to improvement

#### **4.3. DISCUSSIONS:**

The aim of this article was to contribute to the perception of Industrial Revolution and its interrelatedness with perceived Industrial Revolution 4.0 and Smart HR 4.0.

Organizations can bring in the importance and being more proactive in managing talents. It is necessary that organization should provide reasonable time to make understand to employees the importance of their work which will increase their involvement in their job. The contribution of the research, there lying a strong bond between new educational requirements of Industry 4.0 and thereby organizations adoption level should be improved.

- Prioritizing the workforce with IoT intergration.
- Understanding the benefits of Industry 4.0.
- Learning to adopt with existing equipments.
- Going with the track of Educate, not eliminate.

#### **5. CONCLUSION:**

To conclude, HR 4.0 practices play significant roles in meeting the principles of IR 4.0 at IT industries. Effective HR 4.0 practices could enhance the performance of organizations by equipping the workforce updated competencies. Although past studies have been discussing the topic of IR 4.0, there is a dearth of studies that discuss the roles of HR 4.0 practices in achieving the goals of IR 4.0. Both, organization structure and leadership style changes would be required for efficient SHR 4.0 implementation

that would allow HR departments to play a more strategic role in the overall organization growth. One clear lesson arises from the study, adaptability – in organizations, individuals and society – is essential for navigating the changes ahead. It's impossible to predict exactly the skills that will be needed even five years from now, so workers and organizations need to be ready to adapt – in each of the world's we envisage. Inevitably, much of the responsibility will be on the individual; adapt to organizational change, but be willing to acquire new skills and experiences throughout their lifetime, rethink and retrain mid-career.

#### **REFERNCE:**

1. L. Barteveyan, L. Industry 4.0–Summary report. DLG-Expert report, 5, 2015, pp.1-8.
2. J. Wan, H. Cai, and K. Zhou. Industrie 4.0: enabling technologies. In Proceedings of 2015 international conference on intelligent computing and IoT (pp. 135-140). 2015, January, IEEE.
3. T. K. Sung. Industry 4.0: a Korea perspective. Technological forecasting and social change. 2018 Jul, 132, pp. 40-5.
4. M. Hermann, T. Pentek, & B. Otto. Design principles for industrie 4.0 scenarios. In 2016 49th (HICSS) (pp. 3928-3937). 2016 Jan, IEEE.
5. B. Ślusarczyk. I 4.0: are we ready?. Polish Journal of Management Studies. 2018, pp. 17.
6. H. Kagermann, W. Wahlster, & J. Helbig. Recommendations for implementing the strategic initiative Industrie 4.0: Germany. 2013 Apr.
7. L. Thames, D. Schaefer. Software-defined cloud manufacturing for industry 4.0. Procedia cirp. 2016 Jan, pp. 12-7.
8. A. Cerika, S. Maksumic. The Effects of New Emerging Technologies on Human Resources:

(Master's thesis, Universiteti Agder; University of Agder), 2017.

9. S. Weyer, M. Schmitt, M. Ohmer, D. Gorecky. Towards Industry 4.0-Standardization as the crucial challenge for highly modular factories. *Papers online*. Vol. 48 (3), 2015 Jan, pp. 579-84.

10. K. Zhou, T. Liu, L. Zhou. Industry 4.0: Towards future industrial opportunities and challenges. In 2015 12th (FSKD), 2015 Aug (pp. 2147-2152). IEEE.

11. S. Erol, A. Jäger, P. Hold, K. Ott, W. Sihn. Tangible Industry 4.0: a scenario-based approach to learning for the future of production. *Procedia Cirp*. Vol. 54, 2016 Jan, pp. 13-8.

12. S. Shamim, S. Cang, H. Yu, Y. Li. Management approaches for Industry 4.0: A human resource management perspective. In 2016 IEEE Congress on Evolutionary Computation (CEC), 2016 Jul, (pp. 5309-5316). IEEE.

13. S. Park, S. Lee. A study on worker's positional management and security reinforcement scheme in smart factory using industry 4.0-based bluetooth beacons. In *Advances in Computer Science and Ubiquitous Computing*, 2016 Jul 6 (pp. 1059-1066). Springer, Singapore.

14. J. Nagy, J. Oláh, E. Erdei, D. Máté, J. Popp. The role and impact of Industry 4.0 and the internet of things on the business strategy of the value chain—the case of Hungary. *Sustainability*. Vol. 10(10), 2018 Oct, pp. 3491.

15. V. L. Silva, J. L. Kovaleski, R. N. Pagani. Technology Transfer and Human Capital in the Industrial 4.0 Scenario: A Theoretical Study. *Future Studies Research Journal: Trends and Strategies*. Vol 11, 2019 Jan.

16. B. Pikas, X. Zhang, W. A. Peek, T. Lee. The transformation and upgrading of the Chinese

manufacturing industry: Based on —German Industry 4.0. *Journal of Applied Business and Economics*. Vol 18(5), 2016.

17. S. A. Omar, F. Hasbolah, U. M. Zainudin. The Diffusion of Artificial Intelligence in Governance of Public Listed Companies in Malaysia. *International Journal of Business, Economics and Law*, Vol. 14 (2), 2017.

18. M. Gabriel, E. Pessl. Industry 4.0 and sustainability impacts: critical discussion of sustainability aspects with a special focus on future of work and ecological consequences. *Annals of the Faculty of Engineering Hunedoara*. Vol. 14(2), 2016 May, pp. 131.

19. D. S. Pratiwi, Rusman. Enhancing critical thinking skills in higher education in preparation of industry 4.0: a literature review. *Proceedings of 3rd International Conference on Education and Regional Development*. 2018 Nov 22.

20. J. Deuse, K. Weisner, A. Hengstebeck, F. Busch. Gestaltung von Produktionssystemen im Kontext von Industrie 4.0. In *Zukunft der Arbeit in Industrie 4.0*, 2015 (pp. 99-109). Springer Vieweg, Berlin, Heidelberg.

21. K. Stachová, J. Papula, Z. Stacho, L. Kohnová. External partnerships in employee education and development as the key to facing industry 4.0 challenges. *Sustainability*. Vol. 11(2), 2019, pp. 345.

22. M. Festing, L. Schäfer. Generational challenges to talent management: A framework for talent retention based on the psychological-contract perspective. *Journal of World Business*. Vol. 49(2), 2014, pp. 262-71.

23. Z. Moayedi, M. Vaseghi. The effect of talent management on organizational success. *Scinzer, Journal of Accounting and Management*, Vol 2(3), 2016, pp. 16-20.



24. D. Angrave, A. Charlwood, I. Kirkpatrick, M. Lawrence, M. Stuart. HR and analytics: why HR is set to fail the big data challenge. *Human Resource Management Journal*. Vol. 26(1), 2016, pp. 1-11.
25. M. Wilkesmann, U. Wilkesmann. Industry 4.0—organizing routines or innovations?. *VINE. Journal of Information and Knowledge Management Systems*. Vol. 48(2), 2018, pp. 238-254.
26. B. Sivathanu, R. Pillai. Smart HR 4.0—how industry 4.0 is disrupting HR. *HumanResource Management International Digest*, Vol. 26(4), 2018, pp.7-11.
27. F. Hecklau, M. Galeitzke, S. Flachs, H. Kohl. Holistic approach for human resource management in Industry 4.0. *Procedia Cirp*, Vol. 54, 2016 Jan, pp. 1-6.
28. M. Wolf, M. Kleindienst, C. Ramsauer, C. Zierler, E. Winter. Current and future industrial challenges: demographic change and measures for elderly workers in industry 4.0. *Annals of the Faculty of Engineering Hunedoara-international journal of engineering*. Vol. 16(1), 2018 Feb.
29. M. Marope, P. Griffin, C. Gallagher. Future competences and the future of curriculum: A global reference for curricula transformation. Paris: International Bureau of Education. 2017.
30. J. E. Agolla. Human capital in the smart manufacturing and industry 4.0 revolution. *Digital Transformation in Smart Manufacturing*, 2018, pp. 41-58.
31. S. Shamim, S. Cang, H. Yu, Y. Li. Examining the feasibilities of Industry 4.0 for the hospitality sector with the lens of management practice. *Energies*. Vol. 10(4), 2017, pp. 499.