

A STUDY OF SKILL DEVELOPMENT IN INFORMATION TECHNOLOGY PROFESSIONALS TO MAKE THEM INDUSTRY 4.0 READY

Dr. JYOTI DASHORA

ASSISTANT PROFESSOR
SANGAM UNIVERSITY,
BHILWARA, RAJASTHAN, INDIA

AMAN AGRAWAL

STUDENT
UNIVERSITY OF WARWICK, COVENTRY,
WARWICKSHIRE, UNITED KINGDOM CV47AL

ABSTRACT

Due to the rapid industrialization, increase in the number of industries and over time, many revolutions took place. In this series, the 4th revolution in the industry changed the entire working pattern and technology of industries. The main aim of the research is to highlight the meaning of industry 4.0 and the skill required to do work in a fully transformed industry. Industry 4.0 is another name of recent trends in the automation process and exchange of data in any manufacturing industry. Industry 4.0 is the 4th revolution in industry and it represents the organizations in novel form. It is an intelligent complex network of new technological processes and machines. Information Technology organizations are knowledge organizations and have a rich contribution to the Indian economy. Now after the manufacturing industry, the IT industry is ready to embrace industry 4.0. The employees who are working in it should possess sound digital skills. As far as industry4.0 concern, only digital skill is not sufficient for IT professionals, many other advanced skills are required for an IT professional to make them competent for industry 4.0. Researchers describe all the advanced skills required for better performance in novel industry environment by IT professionals such as advance technical skills, intellectual abilities, behavioral qualities, and much more advanced innovative domain knowledge of networking, information technology and expertise in data analysis etc. is require to be ready for industry 4.0.

Keywords:- industry 4.0, IT professionals, digital skill, soft skill.

1) INTRODUCTION

As Industries are growing rapidly, there is an immense need for digitalization. The concept of Industry 4.0 is related to transformation in the manufacturing industry with automation processes and the exchange of data. Industry 4.0 is the fourth revolution in the industry that is an intelligent complex network of new technological processes and machines.

This emerging technology 4.0 possibly simplifies the entire work process and makes the sharing of information much easier among employees at the workplace. Many industries have been adopted the industry 4.0 phenomenon to achieve excellence at the operation level to increase productivity.

Many different elements such as smart sensors, Big data, cloud computing, robotics, Artificial intelligence, smart sensors, virtual reality, drones, Internet of things, cyber system, nanotechnology etc. play a crucial role in industry 4.0 to enhance Information Technology to increase the performance of a business. A good synchronization is essential between IT and industry 4.0. Moreover, personal expertise and skills are required for industry 4.0 to make the workforce well equipped.

As concern to the information technology industry more automation of work is equally essential as the manufacturing industry. As the IT industry is the knowledge industry and it requires advanced technical skills, as well as interpersonal skills and soft skills, requires to work with industry 4.0 innovative technology.

2. REVIEW OF LITERATURE

Many researchers have done research on industry 4.0 and its implementation benefits as well as its requirement in the current scenario. Some literature studied by researchers are as follows-

According to **Blayone and Oostveen (2020)** in their study about the implementation of industry 4.0. researcher incorporates that industry 4.0 introduces the basic capability of human and machine sharing and decision making.

As per the researchers **Chenoy, Ghosh and Shukla (2019)**. The grand vision of creating 100 million jobs by 2021 is seen under the "Make in India" program. The program is designed to transform the subcontinent into a 'global manufacturing hub' and boost employment by accelerating the economy. Along with this, the government has introduced several aggressive policies like "Skill India" and "Digital India" for this. Taking these policies forward, new-age

technologies are focusing on developing the right skills in various manufacturing sectors to transform the industrial landscape. Through the industry 4.0 phenomenon.

Researchers **Amiron, Latib, Subari(2019)** explained the skills required for industry 4.0 by incorporated Technical and Vocational Education and Training (TVET) i.e. National Occupational Skills Standard (NOSS) developed by the Department of Skill Development Malaysia. Researchers also identify and confirm the common skills and enablers for Industry 4.0.

3.SKILL REQUIRED FOR INDUSTRY 4.0

To work in industry 4.0 environment employees, require all kinds of skills whether it is technical or interpersonal. It is required because all previous applicable technologies and applications are going to be merge. Do not think that industry 4.0 will reduce employment. The automation will not be responsible for job reduction, while this advanced automation requires a change in existing employees to match with industry 4.0 required skills. Hence, need to hire more employees with advanced skills in the organization. As industry 4.0 technology becomes more complex so that much-advanced skills are required to administrate the industry. Due to the introduction of many IT-based novel technologies, there is an immense need to develop that level of skill of employees. However, this transition increase demand from lower-level skill to higher-skilled employees in the organization. The skill required for IT professionals can be broadly classified into two classes- Soft skills and technical skills. As the IT professional already have sound basic technical skills related to the IT field but still, they require some advanced technical skill for hard technology related tasks to perform efficiently in an industry 4.0 environment. Apart from technical skills, IT professionals should possess some personal skills also which require good teamwork and better communication among employees for day to day business activity. It also helps to makes the automation process much easier. Following are some Technical skills that IT professionals should embrace to work in Industry 4.0.

3.1 TECHNICAL SKILLS

This is a very crucial skill for IT professional and it further categorizes into the following subcategories –

3.1.1 SKILL RELATED TO HARDWARE- Automation process technology, technology related to microsystem, specific knowledge of hardware, final installation and functioning of the system and its associated technology

knowledge includes in this category. Much awareness about the design of the system and entire engineering technology.

3.1.2 THEORETICAL AND EXPERT SKILL-It is very essential for IT professional to acquire sound knowledge of all basic and advance programming language, mathematics, statistical analysis etc.as well as required ICT and network knowledge.IT employees acquire broadorganizational and management knowledge along with entire process understanding of work in this atomization work system. An employee should have an understanding of the legal process and business ethics as well.

3.2 INDIVIDUAL SKILL- Along with technical skillsthere isan immense need to acquire some personal skills by IT professionals.many advanced technologies such as artificial intelligence and robotics can faster the working process but unable to think creatively as the human brain. As the devices and software are smarter enough but we have to use expert human skills to manage them efficiently. World economic forum also suggested the best personal skill which will be in high demand in the future.Many experts suggest and think that technical skills will be less significant in the coming time. Personal competencies play an important role to run the business smoothly. The machine never replaces human expertise. As the machine cannot understand the feelings and emotions of employees, can say lack of emotional intelligence. Even a machine cannot make any decisions on immediate problems as well. IT professional must have an understanding of other'sbehavior in the organization, work in a team,organization and business management understanding, creative thinking, personnel management, Coordination and communication ability, flexible cognitive thinking, Prompt decision making, negotiation with vendors, sound judgmental power etc.will help employees to perform better in the novel environment.

3.3 CONCLUSION-

This paper covers the introduction of Industry 4.0 and how much-advanced technology helps to enhance the efficiency of the work. The IT as a knowledge industry how much eager to adopt the fourth revolution of the industry as IT professionals are already equipped with required digital and software knowledge. This paper explained the required skill to make them industry 4.0 ready. The major outcome of the study is that various skills are needed to work efficiently in this automated environment.This set of skills is grouped under two categories - technical and individual skills which together make the industry more growing.

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WEB LINKS-

https://www.aigroup.com.au/training-and-events/soft_skills_industry_4_0 - Soft Skills for Industry 4.0 (The Digital Age) - An Introduction.