ROLE OF INDUSTRY 4.0- A FINANCIAL OPINION

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ABSTRACT

In recent years, Industry 4.0 has arisen as one of the most conversed perceptions and has gained note worthy admiration in both academic circles and the industrial sector. Both Industry 4.0 and lean manufacturing to exploit the regionalized control and aim to increase productivity and flexibility. The implementation of Industry 4.0 has a extensive impact. Mounting interest is being paid to the insinuation of combine Internet of Things and Services (IoTS) technologies into industrial worth making. This new exemplar of digitalized and connected mechanizing is referred to as "Industry 4.0" or "Industrial Internet of Things"(IIoT) and is renovating the time-honored factories into smart and self-governing production. it promises to provide manufacturers with profitable business models, higher efficiency and quality, as well as improved workplace conditions. Growing of digitalization in business and society has led to extreme changes within the companies. As per the current situation most of the concerns are facing the massive trials dealing with subjects like as Industry 4.0/Industrial Internet.

Keywords: Industry 4.0, Ecological, Sustainability, Internet of Things, Technology, Self-governing production, Industrial internet, academic. smart manufacturing, cyber physical system.

1.1. INTRODUCTION

In the present scenario, Industry and its concerned are being the vital for growth of the nation. Particularly Industry 4.0 will give assistance to maximizes the people, processes and equipment for the superior and sustainable growth. Achieve the new visibility into risks and opportunities to build a more of both consumer and customer-centric supply chain management. Predictions of disruptions in utensils or manufacture flow. Prescribe the remedies to improves the productivity. Forecast the workplace perils in real time, with wearable and ecological sensors. Lean manufacturing is arguably the most prominent manufacturing paradigm of recent times (Womack, Jones, and Roos 1990; Holweg 2007). Lean manufacturing supports manufacturing companies in their efforts to improve in many areas, including reduced production cost, improved quality (Bhamu and Sangwan 2014).

1.2. Introduction Industry 4.0 [i]

"Before Industry 4.0, there were three prior industrial revolutions that have led to changes of paradigm in the domain of manufacturing: mechanization through water and steam power, mass production in assembly lines and automation using information technology.

Industry 1.0 began around the 1780s with the introduction of water and steam power which helped in mechanical production and improved the agriculture sector greatly. Next, Industry 2.0 is defined as the period when mass production was introduced as the primary means to production, in general. The mass production of steel helped introduce railways into the industrial system which consequently contributed to mass production at large. During the 20th century, Industry 3.0 arose with the advent of the Digital Revolution which is more familiar compared to Industry 1.0 and 2.0 as most people living today are familiar with industries leaning on digital technologies in production. Perhaps Industry 3.0 was and still is a direct result of the huge development in computers and information and communication technology industries for many countries (Liao et al., 2017).Industry 4.0 has brought change to many professions. People have always been obligated to learn new everyday tasks but now are also compelled to use hi-tech gadgets which are fast becoming the most important factor in their working life (Gorecky et al., 2014).

Industry 4.0 is being presented as an overall change by digitalization and automation of every part of the company, as well as the manufacturing process. Big international companies that use concepts of continuous improvement and have high standards for research and development will accept the concept of Industry 4.0 and make themselves even more competitive in the market (Marcos et al., 2017). This becomes possible by introducing self-optimization, self-cognition, and self-customization into the industry. The manufacturers will be able to communicate with computers rather than operate them.

1.3. IMPORTANCE OF THE STUDY

We are in a digital Era where businesses have progressed to expand their cost proficiency and want to focus on customer centric and drive dexterity within the organization. For achieve their queries like Cost efficiency, Agility Industry 4.0 will provide the finest solution. The best way for a business to confrontation the Industry 4.0 is by deep pitching into the factory floor, understand the problems which are faced on the routine and get a solution. Then it will be led to Solves the problem through use of Internet of Things, cloud-based software or robotic process engineering and etc.,

1.4. OBJECTIVES OF THE STUDY

- To sightsee the state of the art as well as the state of practice of Industry 4.0
- To pointing out the technological, environmental and legal implications of Industry 4.0
- To explore the role of Industry 4.0 in Industry, society as well as economy.

1.5. STATEMENT OF THE PROBLEM

The fourth industrial revolution integrates IT systems with physical systems to get a cyber-physical system that brings the real world in a virtual authenticity. There are also several opposing opinions. It is a persistent progress of technologies that will allow companies to achieve higher efficiency, litheness, as well as boosted product and service qualities [11]. Roland Berger [12] also mentioned that there are slow and steady changes in some areas and described some evolutionary effects of this development. However, the majority of experts, including those in leading companies such as McKinsey & Company, Boston Consulting Group, Capgemini Consulting, Accenture, and General Electric have clearly pointed out the fundamental change of this development considering this transformation toward digital manufacturing as a new and considerable industrial revolution with tremendous effects on countries, economics, businesses, and human labor.

1.6 REVIEW OF LITREATURE

According to **Thuy Duong Oesterreich*, Frank Teuteberg(2016),** "Industry 4.0 is the term which describes trend towards digitization and automation of the manufacturing environment. Despite its potential benefits in terms of the improvement in productivity and quality .End-to-end digital integration of engineering across the entire value chain for the purpose of facilitating highly customized products, resulting in a reduction of internal operating costs".

Christian Leyh, Stefan Martin (2017), " Machines are able to "realize" these tracks and communicate in real time with the corresponding warehouse. Information is primarily used to assess and control current processes".

According to **Sven-Vegard Buera* , Jan Ola Strandhagena and Felix T. S. Chanb (2018)**, " The main point of interest for this article is to investigate the link between Industry 4.0 and lean manufacturing, as well as examine its implications on performance and the environmental factors influencing these relationships".

According to **Sebastian Schlund1 , Ferdinand Baaij2(2018)**," technologies are recapped in five technology areas. Furthermore, all technologies are assessed according to their relevance to Industry 4.0 using citation indices of the respective publication. Finally, two-dimensional figures are used to present an overview structure of all cited technologies, their structural connections and their relevance".

1.7 RESEARCH GAP

Many of the studies have focused on investigating the communication between ICT and lean engineering, few address the new possibilities introduced by Industry 4.0 (i.e.,) smart manufacturing and then implications of digitization and automation. Evidence from industry also shows that companies are able to build hybrid solutions, where they are able to take advantage of both lean manufacturing and ICT solutions such as enterprise resource planning (ERP) systems (Riezebos, Klingenberg, and Hicks 2009) and manufacturing execution systems (MES) (Cottyn et al. 2011).But this study will explore the financial view and how it takes place in industry 4.0.

1.8 SOURCES OF THE DATA

This study is s descriptive research which used to provide exact depiction or account of characteristics of a particular individual or group and these kind of studies are means of "discovering new methods and describing what exists"(Helen L Dulock 1993). In this study researcher has described about the existing information (i.e.,) industry 4.0, and its impacts as a wide from various reference and authenticated sites.

1.9 ROLE IN ECONOMY

The major technological advancements of the Fourth Industrial Revolution, or Industry 4.0, are revolutionizing industrial production "Industry 4.0, or the Fourth Industrial Revolution, is bringing about a paradigm shift that will profoundly change the way we work, live and interact and will affect industrialized as well as industrializing economies alike." LI YONG, Director General of UNIDO

1.10. ROLE IN SOCIETY

"Sensors and machine-to-machine networks are not new to industries. What will change is the way they interact. For instance, data is still in silos, but Brainwork and paperwork are still substantial, and processes are often dependent on specific individuals".

"All this is changing with industry 4.0. This shift means taking full advantage of connectivity and use data across boundaries", says Matthias Roese, industry expert and Chief Technologist Manufacturing at Hewlett Packard Enterprise.

1.11. NEED and IMPORTANCE OF INDUSTRY 4.0

Industry 4.0 is playing a vital source and the need of the same is to facilitate the manufacturers with present challenges. It is possible by more flexible and reacting to changes in the market as easy as possible. it will maximize the speed of creativity and innovation and particularly it is focused on consumer needs, and it will lead to make the design process as fast as possible.

1.12. SCOPE OF INDUSTRY 4.0

Since the topic as Industry 4.0 playing a major role in all sectors of the economy. So scope the study is widen and it can be extend in plenty of aspects in future. Especially Revolutions and Changes takes place in manufacturing sector will be key source for this study. Because of its theme is focused on client centric it will reach to the miles. Real pertinent improves when improve the process of productivity which will only succeed if the use of technology is replicated in more operative and well-organized production processes.

1.13. CONCLUSION

The Reach of three Revolutions takes and plays incomparable role in one of the back bone sector of the country that is Industry 4.0 and its originations that are merged are currently under investigation by numerous research institutes as well as by companies [Yin 2017] and even country's industrial strategies [Santos 2017]. The construal of the stretch is very different. Industry 4.0 is mainly absorbed on refine and sumptuous the tactics endorsed by the central government to build economic and social systems that can flexibly respond to changes, launch some kind of operational system to maximize the effectiveness of initiatives and policies, progress material and workable action plans to changeover toward economic and social systems that can billet innovative changes, and create infrastructure to lead all initiatives. So this paper elaborately provides the details in financial view of INDUSTRY4.0.

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