


Chapter 17

The Impact of New Technology on Society and Workforce in Production in the Era of Industry 4.0

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ABSTRACT

The industrial revolution, which took place in the 20th century, is the first step of similar developments in the ongoing centuries. In the first steps of this century, the use of steam machines in production is the first steps of a more serial and systematic production structure. With the advancing developments up to the industrial revolution or Industry 4.0, a structure quite different from the initial stage was formed. In the most general sense, the Industry 4.0 structure, defined as the internet of objects, emerges with a more systematic and self-functioning structure discourse in its production activities, but its effects are not only related to production activities. As a matter of fact, the use of Industry 4.0 at the point reached, human resources, employment, social classes, communities, and so on. It is thought to be effective on the structures. In this context, in this study, the effects of the social impacts of these processes and the ways in which Industry 4.0 can create a social structure have been explained.

INTRODUCTION

An effort to meet the needs of humanity arising from the will of communal life within the permanent settlement made changes necessary of certain organizations on production. In the early agricultural societies, people produced every material they need on their own and again, they evaluated these productions

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by themselves. Afterward, the emergence of the needs of different areas and meeting them from different settlements resulted in trade through exchange and/or medium of exchange. After the continuation of their commercial activities, people who became economically stronger began to focus on the commercial activities which were performed as production and selling of the products because of these benefits of commercial activities. While these production activities and the income obtained in the continuation of these activities increase the concentration of people in the commercial activities, these commercial activities to be presented to the products to be produced faster ways were sought on the one hand.

As a matter of fact, until the 18th century, the products based on production in small hand looms or workshops were not enough for people to get the economic income they wanted. However, it is not mentioned that production activities can be made to meet the increasing consumption due to population. In the 18th century, humanity began to increase its production activities in light of some new developments and by the end of this century, a number of technological advances that began to be seen all over Europe of which center was England took the first step in the radical changes in existing production systems around the world. In this process advancing from small workshops to factories, from part production to wholesale production, people began to mass production, including the machine in their production activities. In the early periods, mechanization in the production of steam machines enabled the creation of the desired structure such as obtaining more economic income both individually and nationally. As a matter of fact, the share of mechanization in production, which became widespread in Europe with these developments, paved the way for establishing superiority over different states with both economic development and improvement. This process, which started at the end of the 18th century, is called “Industrial Revolution” or “Industry 1.0 in the literature (Ege Bölgesi Sanayi Odası [EBSO], 2015).

When the basic factors in the emergence of the first step of the Industrial Revolution, which has such an impact socially, the effect of technological advances that humanity has progressed for thousands of years is seen. This leap, which emerged in England and which first affected Europe and then the whole world, is seen as the greatest economic and technological revolution ever seen on earth till that day.

When the literature is examined about the fact that the process which is described as the 1st Industrial Revolution started in England, it is seen that this situation is not discussed as a coincidence. As a matter of fact, having rich reserves in terms of mines and coal as of the period and the dominance of a democratic government in the country are listed as main factors triggering the beginning of the Industrial Revolution here. However, in the literature related to the England connection of Industrial Revolution (Soylu, 2018);

- It is seen that factors such as:
- England, having a powerful economy,
- Elimination of structures that prevent the environment of free competition from production,
- Having colonies which can be used to meet the needs of raw materials and manpower,
- Easy transportation thanks to the strong fleet of trade in England,

Due to its geographical location, Britain’s ability to avoid political chaos and wars are listed.

When the social effects of the Industrial Revolution emerged in the mentioned period are examined, it is possible to mention the beginning of a period in which the social structure was redefined and significant developments took place in this field. Indeed, the “factory” formations which were the structures that did not exist until then and that these were centered on the lives of people who had their own daily lives. However, the rapid transformation of developments in urbanization structures and economic life also resulted in the transfer of buildings seen in rural areas to city life in the social structure. In this context,

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