

## Change and Transformation of Personnel Qualification in Journalism in Relation to the Fourth Industrial Revolution

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**ABSTRACT:** The fourth industrial revolution, also called Industry 4.0, is a new process which machines and systems will communicate independent from humans over digital infrastructure, bringing a new era in production. Industry 4.0, which has roots in the manufacturing sector, is predicted to be effective in many different subcategories of the service sector. It is obvious that the need to communicate with Industry 4.0, which is the door of a rapid virtualisation and digitalisation era, will increase. At this point, the attention of the society is focused on the activities of the journalism sector. One of the most important roles of the journalism industry in the process of adapting to changing communication in the course of the fourth industrial revolution falls to the employees of the sector. In this study, it was aimed to discuss the change and transformation that is expected to take place in the nature of the staff working in the journalism sector in Industry 4.0. First, a general assessment of the service sector was made, the structure of the service sector was examined and the situation before and after Industry 4.0 was analysed. In the second part of the study, the journalism sector was evaluated under industry 4.0. First, the structural analysis of the journalism sector was made, and the prospects for the development of the journalism sector were included in the framework of the fourth industrial revolution. In the last part, the effects of the Industry 4.0 period on the employees of the journalism sector were analysed. In the present section, the current situation of journalism sector employees was first examined, followed by estimates of the change and transformation of the quality of journalistic sector personnel in the Industry 4.0 process. Literature search, case study and editing methods are used together in the study.

**KEYWORDS:** Industry 4.0 and Journalism, Journalism Sector Personnel in the Fourth Industrial Revolution, Transformation in the Quality of Journalists with Industry 4.0

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### I. INTRODUCTION

Industry 4.0 is a concept created to bring together information technology and industry. One of its key components is what is termed "next generation hardware and software" and is a means of allocating less space than conventional hardware and software, spending less energy, generating less heat, operating at lower cost and higher security level. One of the main goals of Industry 4.0 is that software and operating systems that will run these hardware are saving on memory and resource usage.

The other important component is the concept of "cyber physical systems", which refers to an intelligent electronic system in which every device communicates and exchanges information (the Internet of objects) and is integrated in these devices, equipped with sensors, and operated via the Internet connection. The use of cyber physical systems in factories in the manufacturing process has laid the groundwork for the emergence of intelligent factories by ensuring that the machines are coordinated within themselves and optimized production is needed, at the minimum level required by human beings. When Industry 4.0 really goes into effect, it is expected that the production time, cost and the amount of energy needed will decrease, while at the same time the quality and quantity of production will increase.

Industry 4.0, the fourth wave of industry revolutions, was pronounced for the first time in 2011 at the Hannover Fair in Germany. It is aimed to bring industrial activities and information technologies together in the context of Industry 4.0, which is also referred to as a new generation of industrialism. Industry 4.0 is projected to be a manufacturing sector based project, as well as a major impact on the service sector. In developed countries, the share of service sector in employment is high. According to data from 2017 of 69.83% in the US service sector share of employment (BEA, 2017) at 79.19% in the UK and Germany in Turkey assessed in the category of developing countries, while 68.67% is 61% according to 2016 data . (OECD, 2017)

When we look at the components of service sector value added, it can be said that the production of non-intangible services, which provides significant consumer benefits from financial products, has increased.

This situation is called "output economy". In order to reach the target market in an output economy, it is necessary to go beyond the standard work patterns and develop new business models.

Information and communication are at the forefront In the process of Industry 4.0, it is predicted that the main outgoing point of information and communication journalism will be a prominent subdivision of the service sector. In this framework, it is expected that the enterprises operating in the journalism sector will enter into an entirely changing process of economic, management and personnel structure. Therefore, the staff working in the journalism sector must keep up with this change. In this study, the change and transformation expected of the personnel of the journalism sector in the process of the fourth industrial revolution were examined.

## **II. SERVICES INDUSTRY IN RELATION TO FOURTH INDUSTRIAL REVOLUTION**

In the context of the fourth industrial revolution of the service sector, it is expected to make a major change. This section, consisting of three sub-headings, first examined the structure of the service sector. Then, the development of the service sector from the 1st industrial revolution to the day-to-day sector was examined, and finally the expected changes in the service sector within the scope of the industry 4.0.

### **2.1) Structure of Services Sector**

The concept of service can be dealt with in three different dimensions: benefits that are the core product that the business produces within its core business areas, actions that require the use of goods, and actions taken with other goods or services. Looking at the structure of the service sector and the businesses operating in the sector, it seems that there is no flexibility in production management. Being a labor-intensive industry makes it difficult to measure the quality and quantity of products and services. It is a human-focused sector, but it is difficult to identify the target market.

The service sector has come to the forefront in developed countries since the 1950s. The United States, the first country to transform the service economy in the world, has made this transition in the 1950s. In 1950 the US service sector to GDP ratio while production appears to be 47.39% (BEA, 2017) but Turkey has reach this level in 1990. (OECD, 2017) This situation shows that Turkey could not be considered as yet the service economy in that period.

The first trend observed in countries that have transformed into the service economy is the increase in the share of service sector in employment. For this reason, in the first studies in the service economy literature, the expansion of the share of the service sector in employment has been regarded as a demonstration of the service economy. Later the increase in the share of the service sector in production and consumption and the expansion of international service trade have been included in the analyzes as other indicators of the service economy. (Atik, 2000)

### **2.2) Evaluation of Services Industry in Relation to Previous Industrial Revolutions**

At the end of the 19th century, the Industrial Revolution in Europe, the form of post-production, has shifted, and the agricultural labor force has shifted to the industrial world. Looking at the economic development of Germany, which started with discussions on Industry 4.0 and was assessed in the category of developed countries, it is observed that the share of national total value added of agriculture is 1.1% in 1991 and 0.6% in 2017. The national share of the value added of the industry was 25% in 1991, compared to 21% in 2017. The national share of the value added of the service sector increased from 56.3% in 1991 to 61.9% in 2017. (OECD, 2017)

Ideas about the role of the service sector in the economy have changed rapidly over time. Classical economists such as Adam Smith and Karl Marx have characterized the service sector as a non-productive activity, but due to the inadequacy of the work on the sector, these considerations have maintained their weight for a long time and the service sector has remained backward. According to Fisher and Clark in 1940s, following these views, which lasted until the 1930s, it was suggested that the economy of agriculture was the dominant sector, with the development process going forward. In the last period of the development period, opinions were raised that the service sector would be the dominant sector of the economy. Looking at the sectoral distribution of national income in developed economies, it appears that the share of the service sector has increased, especially after the second industrial revolution. Today, in the developed countries, the share of the service sector in national income is over 60%. (OECD, 2017)

### **2.3) Possible Developments in Services Sector in Relation to the Fourth Industrial Revolution**

It is expected that the demand for human power in the service sector will decrease in the Industry 4.0 period. It is planned that basic goods and services that can be produced without the need for human thought and interpretation are realized through artificial intelligence focused systems and remotely controlled robots. The place in EmekinSanayi 4.0 will be a qualified workforce, also called human capital. It is expected that the

economic structure in the new period will rely on intelligent systems instead of capital. Nowadays, venture capital established and managed through low capital comes to the forefront.

Industry 4.0 has a number of potential impacts on the employment gap, setting the stage for disagreements. Ideas are being put forward that robots and intelligent systems will be especially blue-collar jobs. The need for a qualified workforce to manage systems based on the Internet of objects is creating an environment in which automation is regarded as a risk for blue-collar workers. In fact, the general effect of the fourth industrial revolution on employment can be considered as providing new jobs to the qualified workforce and improving employment in this context.

### **III. JOURNALISM IN INDUSTRY 4.0 PERIOD**

With the fourth industrial revolution, it is expected that the need for knowledge will increase. Today, information is more based on virtual resources, making it easier to access information. In this context, it is envisaged that the journalism sector, which is to enlighten the society by producing unbiased and transparent news based on authentic and confirmed information, will play an important role in the industry 4.0 process. In this part of the study, the infrastructure and the working system in which the journalism sector was founded was discussed, followed by the development of journalism until the turn of the century when industry 4.0 emerged.

#### **2.4) The Composition of Journalism Sector**

Media; radio, magazines, television, newspapers and the Internet and is an important part of the communication process. Parallel to the diversity of information sources, the communication environment covered by the media concept has increased over time. The newspaper, which is accepted as the first concrete work of the media, can also be regarded as the first means of communication. The newspaper continues its existence in the media sector with the function of news gathering and dissemination.

The journalist is the person who engages in journalism. A journalist, also known as a press member, is in charge of collecting, organizing and transferring information that may be a source of information within the scope of the media sector. The type of journalism varies according to the type of news or the accepted journalism. Free journalism in this framework is journalism without affiliation to a press or publishing institution. In other words, free journalism is the kind of journalism that is carried out in order to take place in the newspaper by a worker who is paid for directly or through an agency. It is possible for a freelance journalist to work on more than one newspaper simultaneously. In the case of permanent journalism, which is another type of journalism, a journalist is the person who is constantly found in the job of a journalist.

There are some professional rules that must be followed in journalism as it is in every profession. The right of the public to obtain information from the right source, the journalist must respect and obey the truths. The journalist should argue that society's global norms and differences, especially human rights, peace and democracy, must be respected. The source must be aware that it must not disclose any unannounced or unconfirmed news and information, and should not use a misleading way to obtain any sound, image, news or information. The journalist does not have the right to violate the privacy principle of private life, unless expressly consented, for any purpose in which the community has no direct connection to the right to information and information. Under no circumstances can it disclose the sources of information and news given to him on the basis of a trust relationship, as long as it is not allowed, subject to the principle of professional secrecy. He is not motivated to obtain any benefit or profit as a means of publishing or publishing any news or information, and he can not use his profession to obtain privileges by excluding himself from the scope of rights recognized in his legal grounds.

#### **2.5) Predictions on the Future of the Journalism Industry in the Industry 4.0 Period**

The Internet has entered into the use of people in the 20th century and has also affected the journalism industry in parallel with the increase in its use over time. In the second half of the 20th century, the journalism sector, where journals and journalists were the frontrunners until the first half of the 20th century, became a sector where radio, television and the Internet were more active. The progress of the technology, the media prepared for the digitalization. With the Internet and computer being more active in the media, the media sector has entered a process of structural change.

Industry 4.0 will be the most important contributor to the journalism sector, laying the groundwork for a change in ownership structure dominated by media organizations. Technological developments that showed itself in the years of 2000 have a great impact on this situation. The fact that technological developments will change the ownership structure of media companies means that the need for large coherent capital is leaving information and equipment. In the age of "mass media" that we are in, the way of having a say in the journalism sector is to have a talent, intelligence and a practical idea to use them rather than being a capital owner. Especially when the industry 4.0 is over, the media actors will be able to actively use technology, manage their

business through the virtual environment with individual effort, and the working structure of the media organizations will change.

Internet-managed businesses are established at very low cost and are initiatives that can be sustained by one or more people. The lack of a large working office in these initiatives is a major cost-reducing factor, largely due to the lack of internet connectivity and a navy outfit. In addition, the fact that there are not a large number of employees and that there is no need for any organizational structure also seriously lowers costs.

#### **IV. JOURNALISM SECTOR EMPLOYEES IN INDUSTRY 4.0 PROCESS**

In this section, the current status and professional qualities of journalists are analyzed, and in the process of digitalization, which influences journalism, recommendations are shared about the areas in which employees who want to continue their career by turning automation into an advantage.

##### **4.1 Analysis of Current Situation of Journalism Sector Employees**

In Turkey, overall situation does not look good. Technology investments are made on the part of advancing the sector, but no investment is made in raising human capital which has been trained in quality communication that can use this technology. The education given in the communication faculties is inadequate to give graduates with the qualifications required by the sector. In addition, the faculty of communication faculties have difficulties in acquiring their place in the axis of media / capital / technology especially due to the cross monopolization which has become evident in recent years.

The journalism sector has a supportive view on organizing courses and trainings in the fields of media, communication and journalism, but it does not seem to be enough for the personnel that they want to employ to have received communication training. He does not clearly define the profile of the communicator he wants from the other side. The sector is unable to fulfill this desire because it is given at universities at the undergraduate level of education with its own methods of managing and supervising communication education.

##### **4.2 Estimates of Change and Transformation of the Qualities of the Journalism Sector Employees in Relation to the Fourth Industrial Revolution**

As mentioned at the beginning of the work, it is expected that the fourth industrial revolution will change the media to a great extent. The concept of customized product development we have introduced with Industry 4.0 will be adapted to the journalism sector in the form of personalized news production through artificial intelligence.

Automation in the new digital era is a possible development of a large-scale workforce. The fact that the artificial intelligence-oriented reporting system is totally dominant in the sector is not possible in today's conditions, but the areas of emphasis are narrowing. In this framework, the industry will be highly skilled in the professions that are important in the 4.0 process. Therefore, specialization should not be confined to an area. The fact that information becomes an easily accessible and quickly consumable fact indicates that the journalist must also adapt to this fast process.

The journalist needs to constantly develop himself to be able to closely follow what is going on in the world. The starting point here should be the right to reach the right information. Because information is accessible from different channels, sharing of information takes place very quickly, and information that can not be verified can be propagated without being sure of its authenticity. At this point, the Big Data concept comes out.

Large data is a term used to describe data sets beyond the storage, management and processing capacity of commonly used programs. The combination of the enormous dimensions of large data and the complexity of the analysis required to benefit from it has led to the development of new class technologies and tools to manage them. In fact, large data usually describe the type of managed data, as well as the technology used to store and process it. Most of these technologies are Google, Amazon, Facebook, LinkedIn and so on. While companies struggle with incredibly large social media data, they are born from the technology they have developed for themselves. These companies attach importance to the nature, low cost, on-the-fly hardware and open source software (Cackett, 2016).

The data volume, speed and diversity are important concepts in the formation of Big Data. Data volume refers to the amount of data, the amount of data that can be generated in a certain time period, and the variety of data in different forms (3D data, social media, audio, images, etc.). Big Data allows digitalization of data and interpretation, interpretation and prediction of human behaviors by combining data in different volumes. It is envisaged that the Big Data will be one of the main points of future for journalism in this frame. Therefore, to be able to manage large data must be the starting point of a journalist who wants to adapt to industry 4.0.

Big Data brings new technologies and applications together. They need to be analyzed in detail to understand their future value. The purpose of access to information is to allow faster, better and more consistent decisions. In this context, it is essential to extract, analyze and interpret the data which may be news sources

from large data. In order to be able to do this, the journalist must closely follow the technology and must dominate at least one foreign language professionally.

## V. CONCLUSION

Although the fourth industrial revolution is only a strategy, it is partly influenced by the economic structure. The expected industry 4.0, which is expected to be a major shift in the service sector in the near future, will also affect the media with the assumption that information and communication will come to the forefront. The fact that information becomes easily accessible makes it easy to share information quickly and without confirmation of its source and its authenticity. Getting news sources more often through the internet channel has led to the concept of internet journalism. In this context, the media industry will be in a critical position in the 4.0 process. The change in media working methods requires journalists, that is journalists, to develop their professional qualifications. Individuals who practice journalism in this context should strive to adapt to the process. Instead of interpreting artificial intelligence and automation as a threat in the field of employment, using these concepts to facilitate their own business will be the right approach for the new process.

## REFERENCES

- [1]. Atik, H. (2000). Hizmet Ekonomisi Göstergelerive Türkiye. Atatürk Üniversitesi İktisadiveIdari Bilimler Dergisi. (14). 33-39.
- [2]. BEA. (2017). Value Added. Bureau of Economic Analysis. <https://www.bea.gov/industry/gdpbyind-data>Date of Access: 07.06.2018
- [3]. Cackett, D. (2016) Information Management and Big Data, A Reference Architecture. White paper. Redwood Shores: Oracle Corporation, 2013. Web.
- [4]. OECD. (2017). Value Added by Activity. Organisation for Economic Co-operation and Development. [https:// data.oecd.org/natincome/value-added-by-activity.htm](https://data.oecd.org/natincome/value-added-by-activity.htm) Date of Access: 01.05.2018
- [5]. WB. (2017).Agriculture, Forestry, and Fishing, Value added (% of GDP). World Bank.<https:// data.worldbank.org/ndicator/NV.AGR.TOTL.ZS?view=chart> Date of Access: 01.05.2018
- [6]. WB. (2017). Manufacturing, Value Added (% of GDP). World Bank. <https:// data.worldbank.org/ indicator/NV.IND.MANF.ZS?view=chart> Date of Access: 01.05.2018
- [7]. WB. (2017). Services, Value Added (% of GDP). World Bank. <https:// data.worldbank.org/ indicator/NV.SRV.TOTL.ZS?end=2017&locations=DE&start=1991&view=chart>Date of Access: 01.05.2018
- [8]. YedekciArslan, G. (2014), Kentsel Dönüşümün Sürdürülebilirlik Boyutu: Hammarby (İsveç) veFener – Balat Uygulaması, Hasan Kalyoncu Üniversitesi Güzel Sanatlarve Mimarlık Fakültesi Dergisi, (2), 181.

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