Chapter 14
Applying Industry 4.0 on Management of Gastronomy Events

Asim Saldamli
Abant Izzet Baysal University, Turkey

Nurhayat Iflazoglu
Mustafa Kemal University, Turkey

Ipek Itır Can
https://orcid.org/0000-0003-4793-7151
Anadolu University, Turkey

ABSTRACT

Industry 4.0 plays a role in meeting the demands of the global market in food and beverage activities with more efficient, harmonious, reliable, and sustainable production processes. In the recent years, enterprises have started taking advantage of augmented reality technology in the design phase; three-dimensional printers, internet of things technology and robot chefs during the production phase; and robot waiters in the presentation phase. In this context, in this chapter, the transformations experienced in the design, production, and presentation processes of banquet organizations as the result of the Gastronomy 4.0 concept, which emerged as a result of the reflections of Industry 4.0 on the field of gastronomy, were examined. It is thought that in the near future, if the prevalence of Gastronomy 4.0 applications increases, the personnel responsible for running banquet organizations will need to be trained and also informed about the equipment of the new age.

DOI: 10.4018/978-1-7998-4954-4.ch014

INTRODUCTION

Technology can be defined as a practical process that reproduces human life via continuous development, affects the behavioral plane and living spaces, and is based on the ability to think and produce knowledge. Therefore, technology can be regarded as an important force that shapes the future and needs to be constantly monitored, that can change and transform people who are its creators, their nature and living spaces, and nature in general. The series of industrial revolutions, which started with the transition from manpower to machinery, evolved into the Technological Revolution with the emerging of the period when superior electrical technology produced larger scale production and more complex machines compared to the previous periods. On the other hand, it is known that the digital revolution started with the first computers in the 1950s. Computers laid the foundations for the industrial revolutions that would come after them. Machines have become able to manage themselves in many ways, often using internet technologies or internet objects. This technological stage is now called industry 4.0 and includes the use of cloud technology and applications of big data (Topsakal et al., 2018). It is an undeniable fact that the developments in information technologies are used in an innovative way by industrial companies, changing the production processes, production, value chain, household behavior and demand.. But of course, this process has gradually come to this level of advancement. Developments in different periods of history have contributed to the development of different industrial branches and other sectors.

Industry 1.0, the first industrial revolution, was realized as the transition from agricultural economy to industrial economy at the end of the 18th century with the discovery of steam and its use in machinery. Production has evolved from hand and body labor to machine power (Genc, 2018).

The foundations of Industry 2.0 were laid in the early 20th century after the previous revolution mechanized production. The leap of the superiority, knowledge and know-how gained by England with the first industrial revolution, to other countries had brought technological progress. This revolution is also known as "technology revolution". New techniques such as the use of electricity in factories, the substitution of coal with crude oil as the energy source, and mass production and the assembly line are the prominent features of Industry 2.0. Electrical technology that is more efficient than steam power has been used in production lines. Thus, production increased significantly and the world met with the Fordist mass production applications (EBSO, 2015).

Industry 3.0 is also known as "digital revolution" due to the inclusion of computer technology in production. It is a period that defines the transition from the industrial society to the information society. After the development of computers based on calculators powered by mechanical electricity, the search for a network that will enable the interconnection of machines within the computer system is regarded as the beginning of the history of the internet (Ziewitz & Brown, 2013). While the rapid increase in the processing power of computers gave birth to "smart machines", the sudden and rapid breakthrough of the robotic industry caused the decrease in manpower in production for the first time due to the use of robotic machines in production instead of humans. The integration of electronic and computer applications into the machinery applications has led to the automation of production systems, and the development of electronic, information and communication technologies has enabled the automation of production.

Developments in the Industry 3.0 era such as the development of the Internet, fiber optic networks and automation in production played a major role in the development of Industry 4.0's prominent smart production and Internet of Things technologies (Kabaklarlı, 2016). Germany is the leading country of Industry 4.0. It first came to the agenda with the Hanover Fair held in Germany in 2011. Following Germany, Spain started a national initiative under the name of "Advanced Factories", Italy - "Smart