

Chapter 3

Transformation of Business With Digital Processes

Nilüfer Serinikli

Trakya University, Turkey

ABSTRACT

Digital transformation has caused amendments to business in terms of strategies, work models, work processes, product and services, organization culture, decision making, technological infrastructure, human resource management, and collaborations. Thanks to digital transforming, amendments in business have caused to appear new type business: digital business. In digital business, either new work model system is created, or existing work process is changed or transformed. The purpose of this study is to determine the differences between conventional businesses and digital businesses and the amendments to organizational structure and human resource management in digital processes. In the light of this purpose, examples will be given from businesses changed by digital processes.

INTRODUCTION

As a result of technological developments from past to present, some innovations which are special to each field have occurred. These innovations emerge, change conceptions and initiate processes of change. This process began with the emergence of Industry 1.0 due to the use of steam power in industry. Afterwards, due to use of electrical energy in production, Industry 2.0 began, while Industry 3.0 continued with the use of programmable machines. Later, at the start of the 21st century, as result of informatics and communication developments, widespread use of the internet and developments in the software field, improvements in intelligent systems have caused the initiation of new change processes (Soylu, 2018: 45). Called Industry 4.0, this new process involves new unmanned production systems in production processes performed by establishing connections between physical and digital systems. Thus, the industrial revolution operating with mechanical systems using steam power has turned into a digital-based technological revolution including cyber physical systems, internet of things, and cloud technologies. This new process is called digital transformation and will encourage online and mobile work in business with more effective relationships between flexibility, speed, and quality, fewer mistakes, high

DOI: 10.4018/978-1-7998-1125-1.ch003

efficiency, shareholders (customers, suppliers, partners and workers) and it will provide easier cultural amendments (Görçün, 2017: 141).

Digital transformation has caused amendments to business in terms of strategies, work models, work processes, product and services, organization culture, decision-making, technological infrastructure, human resource management and collaborations. Together with amendments to business, it has also caused changes to ecosystems (Aksel, Arslan, Kızıl, Okur & Şeker, 2013: 14). While factories, suppliers and support service corporations are disorderly in the conventional process, there is an opportunity to act as a whole in the digital transformation process. Thus, thanks to the internet of things and cloud technologies, each business, factory or institution is able to communicate with others. As a result of this, a living ecosystem is created in work life. Products in this ecosystem are combined around a platform, are prepared by businesses which both support each other and also compete with each other and are transported to consumers. For example, applications in iPhones are improved by businesses apart from Apple and these are transported to consumers by using the Apple platform (Kaya, 2018).

The most significant point to be taken into consideration by digital businesses is the need for qualified personnel. Human resources will act both on structural transformation and also business strategies. For this, a wise, intelligent digital labor force, with accurate vision and special abilities and strong educational background is needed. Besides, qualified people with the ability to work with and to manage robots are needed in intelligent businesses (Sözer, 2016).

The purpose of this study is to determine the differences between conventional businesses and digital businesses and the amendments to organizational structure and human resource management in digital processes. In the light of this purpose, examples will be given from businesses changed by digital processes.

DEVELOPMENT OF DIGITALIZATION

Until 10,000 years before the Common Era, human beings hunted and foraged in order to survive. After this era, they began to engage in agriculture and animal husbandry, adapting to a settled life. This situation led to the “Agricultural Revolution” (Özkan, Al & Yavuz, 2018: 4; Serinikli, 2018: 1608). By means of the agricultural revolution, consuming societies became producing societies, the population increase speeded up, country life was adapted, developments in art and architecture occurred, the concept of private ownership emerged, and management styles developed (Serinikli, 2018: 1608). The Industrial Revolution followed the Agricultural Revolution. Important technological developments triggered Industrial Revolutions. Industrial Revolutions have led to important changes both in the structure of production and also in the structure of organizations (Slusarczyk, 2018: 235; Serinikli, 2018: 1609).

Until today, three large industrial revolutions were experienced. In terms of industry, firstly the use of steam power in factories towards the end of 18th century was the First Industrial Revolution (Industry 1.0); the use of electricity in industry and the transformation into large-scale production processes in the middle of 19th century was the Second Industrial Revolution (Industry 2.0); and later the Third Industrial Revolution (Industry 3.0) emerged with the transfer of important innovations in physics and chemistry into technology. In the early part of 21st century, the Fourth Industrial Revolution (Industry 4.0) began with the internet and digitalization which directed production, starting the use of intelligent machines and intelligent robots in production (Nart & Yıldırım, 2018: 254).

21 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/transformation-of-business-with-digital-processes/235568

Related Content

Task Scheduling in Cloud Computing Using Spotted Hyena Optimizer

Amandeep Kaur, Gaurav Dhiman and Meenakshi Garg (2021). *Impacts and Challenges of Cloud Business Intelligence* (pp. 136-149).

www.irma-international.org/chapter/task-scheduling-in-cloud-computing-using-spotted-hyena-optimizer/269815

Patient Empowerment and Analytics

Sumate Permawonguswa and Dobin Yim (2020). *Theory and Practice of Business Intelligence in Healthcare* (pp. 200-215).

www.irma-international.org/chapter/patient-empowerment-and-analytics/243357

Data-Driven Decision Making for New Drugs: A Collaborative Learning Experience

George P. Sillup, Ronald Klimberg and David P. McSweeney (2012). *Organizational Applications of Business Intelligence Management: Emerging Trends* (pp. 144-162).

www.irma-international.org/chapter/data-driven-decision-making-new/63972

Modeling Energy Portfolio Scoring: A Simulation Framework

Rafael Diaz, Joshua G. Behr, Rafael Landaeta, Francesco Longo and Letizia Nicoletti (2015). *International Journal of Business Analytics* (pp. 1-22).

www.irma-international.org/article/modeling-energy-portfolio-scoring/132799

Measuring the Maturity of the Business Intelligence and Analytics Initiative of a Large Norwegian University: The BEVISST Case Study

Xiaomeng Su and Elsa Cardoso (2021). *International Journal of Business Intelligence Research* (pp. 1-26).

www.irma-international.org/article/measuring-the-maturity-of-the-business-intelligence-and-analytics-initiative-of-a-large-norwegian-university/297061