


Chapter 1

The Impact of Information and Communication Systems on Organizations


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ABSTRACT

The chapter aims to provide a systematic overview of Information and Communication Systems (ICTs), their functions and the effect of ICTs on organizations by clarifying the relationships among the organization structures. As a response to the need for understanding the effects of ICTs on organizational structures and business processes, the present study, which is conceptual in nature, opts for a systematic literature review. The study reviews a broad range of scientific studies that focus on the relationship between ICTs and the effects of organizational facts. Therefore, it presents novel and useful information about the effects of ICTs on general management, organizational hierarchy, and strategic business process that can be used by business information technology investors, developers, and users. It is also hoped that the present study provides research implications for researchers who aim to conduct empirical studies to investigate the impact of ICTs on business systems.

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INTRODUCTION

Information and Communication Systems (ICTs) have developed at an unprecedented pace in the 21st century and influenced every aspect of our lives. To understand the changes in individuals' behaviors in the modern era, it would be helpful to examine the impact of ICTs on daily life and particularly on the consumption choices that affect business strategies, organizations, cities, countries and government structures to a considerable extent.

One of the most concrete indicators of these changes would be internet penetration. To illustrate, in 1995, less than 1% of the world population had an internet connection, while this number increased tenfold from 1999 to 2013. The number of internet users first reached a billion in 2005, two billion in 2010, and three billion in 2014 (*Internet Users*, 2019). Moreover, the number of internet users worldwide was around four billion in 2018 (*Number of internet users worldwide from 2005 to 2019*, 2019). The growth of internet users worldwide has increased more than 3 times within approximately 15 years. Hence, it could be asserted that this increasing trend will be witnessed in the future as well. According to Cisco, 52% of the world population will have internet penetration in 2020 (*Cisco Visual Networking Index: Forecast and Trends, 2017–2022 White Paper*, 2019). The highest population of internet users is in Asia. In 2018, China, which had the highest number of internet users, has over 802 million internet users, while India had over 500 million internet users (*Internet Stats & Facts for 2019*, 2019). Based on these statistics, it can be said that around 30 percent of internet users live in these two countries.

Another important indicator of individuals' behavioral change is the increase in mobile device users. Mobile devices provide easy, fast and effortless access to the internet. Also, mobile devices have become more accessible and affordable over time. Therefore, it can be argued that the number of internet and mobile device users is increasing simultaneously. The statistical data about the number of mobile devices in use confirm this observation as well. Web statistic indicators show that around 4.4 billion people are internet users, and 3.3 billion of these users are social media users (*What Percentage of Internet Traffic Is Mobile in 2020?*, 2019). Therefore, based on these figures, it may be deduced that an increasing number of people are actively using technologies such as augmented and virtual reality, smart wearable technologies, mobile payment and smart home in daily life and consequently, these technologies impact customers' behaviors along with their service-related demands from corporations. This observation can be supported based on two important facts related to ICTs' impact. The first one is the highly increasing number of customers who prefer to do shopping activities online. The number of online buyers has been increased from 1.32 to 2.05 billion between 2014 and 2020 (*Number of digital buyers worldwide from 2014 to 2021*, 2019). In addition to the number of internet buyers, the number of online sellers is another important indicator to understand the influence of the online shopping revolution. According to Statista statistics, the number of customers worldwide purchasing goods online was 1.8 billion, and the return of retail sales was 2.8 trillion U.S dollars in 2018. Moreover, it is estimated that as the number of online customers continues to increase, the amount of online retail sales will grow up to 4.8 trillion dollars in 2021 (*E-commerce worldwide—Statistics & Facts*, 2019). Therefore, it seems that there is a steady increase in online purchases. Besides online retail shopping, the second important indicator is customers' trust index in online shopping. Deloitte's reports on customers' trust in online shopping show that a great number of people have trust in shopping online (Deloitte, 2016; GFK, 2016, 2017).

Considering all the above-mentioned factors, it can be said that new technological trends in the world have affected life patterns, consumption habits and preferences of customers in the last decade. Thus, private and public institutions need to consider differentiation in people's daily life and consumption

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