


Chapter 2

Artificial Intelligence and Data Analysis in Communication: New Dynamics of Digital Transformation

Berrin Aslan Öztezcan

 <https://orcid.org/0000-0002-8781-735X>

Doğuş University, Turkey

ABSTRACT

Digital transformation is leading to radical changes, especially in the field of communication; artificial intelligence and data analysis have become key components of this transformation. Traditional communication practices are being replaced by big data analytics, algorithms, and AI-powered content production processes. This change is profoundly affecting communication disciplines such as media, journalism, advertising, and marketing. This section comprehensively examines the role of artificial intelligence and data analysis in the field of communication, exploring how these technologies are used in many areas, from news production to digital marketing, social media management, and target audience analysis. It also addresses critical issues such as the ethical problems, privacy violations, and data security risks that these technologies bring with them.

1. INTRODUCTION

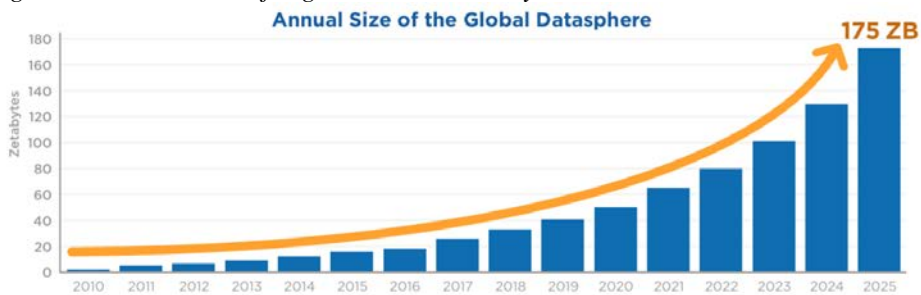
Today, with the impact of digitalization, there is an incredible flow of data in the digital world every minute. According to Domo's Data Never Sleeps 12.0

DOI: 10.4018/979-8-3373-2960-4.ch002

report (2024), Google AI's Gemini receives 8,574 visitors per minute, while 5.9 million Google searches are made worldwide. Netflix users consume 362,962 hours of content, 16,000 new videos are uploaded on TikTok and 3,472,222 videos are viewed on YouTube. Facebook and Instagram Reels content was viewed 138.9 million times, while Snapchat users sent 3.3 million snaps. Voice assistants also play an important role in this busy ecosystem; for example, Siri answers 1,041,666 questions per minute. Communication and collaboration platforms also contribute to massive data generation. Every minute, 251.1 million emails are sent, 18.8 million text messages are sent and 9,000 people apply for jobs on LinkedIn. Microsoft Teams users generate a total of 229 million meeting minutes per minute, while the Zoom app is downloaded 288 times per minute.

These striking statistics show how much digitalization is integrated into the daily lives of individuals and how huge amounts of data are generated every minute. As seen in Figure 1, digitally generated data is expected to reach approximately 175 zettabytes in 2025 (Reinsel, Gantz, & Rydning, 2018).

Figure 1. Growth rate of digital data over the years



This ever-increasing flow of data shows that the digital ecosystem is constantly expanding and data-driven technologies are becoming increasingly central.

Digital transformation is leading to fundamental changes, especially in the field of communication, with artificial intelligence and data analytics becoming key components of this transformation. Traditional communication practices are being replaced by content production processes supported by big data analytics, algorithms and artificial intelligence. This change deeply affects communication disciplines such as media, journalism, advertising and marketing.

This chapter provides a comprehensive overview of the role of artificial intelligence and data analytics in the field of communication and examines how these technologies are being used in various fields ranging from news production to digital marketing, from social media management to audience analysis. In addition, critical

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