

Chapter 20

Digital Innovations and Applications in Information Science and Humanistic Knowledge

Elisha Ondieki Makori

 <https://orcid.org/0000-0003-1966-3253>

University of Nairobi, Kenya

ABSTRACT

Technological development and advancement has influenced and transformed humanity and the society through innovative ideas and changes, though not a panacea solution to mankind's ills. No matter the speed and phase of industrial revolution, machines and appliances continue to shape and sustain human knowledge with intelligent interaction and collaboration. The purpose of this chapter is to determine and forecast transformative and new applications of digital innovations in information science and humanistic knowledge. Explore pertinent and competitive digital innovations and applications in information science and humanistic knowledge. Review and analyze opportunistic developments of digital technologies in information science and humanistic knowledge. Finally, examine solutions and recommendations to harness and promote digital innovations in information science and humanistic knowledge. Digital innovations have interrupted social interactions that have been instrumental in improving humanistic knowledge.

INTRODUCTION

The Fifth Industrial Revolution (5IR) characterized with high magnificent advancements, and an immense appetite for digital innovations and applications, has collided with the human economy across the globe. This contemporary converging and hybridization of technologies to solve societal problems and concerns incorporate mandatory pillars of digital transformation (DT) - knowledge, science, technology, and innovations. Disruption technologies and infrastructures have permeated all aspects of human

DOI: 10.4018/978-1-6684-4755-0.ch020

transformation and development with emerging socio-economic consequences across the globe. This convergence of purpose, creativity, and inclusivity brings together lucrative aspects of the coexistence of machinery and humanity in a bid to heighten output and efficiency (George & George, 2020). Machine and human intelligence intersection and collaboration have transformed and enhanced the development of society. On one hand, machines depend on humans when decision-making requires some quick judgments which are necessary to evaluate the outcome of a decision; and on the other hand, humans also depend on machines when decision-making depends on some complex analytical approach (Bhandari & Reddiboina, 2019). In this manner, humans and machines work together though the former has a broad strategic vision and insights.

In information and media literacy perception of the global digital economy in terms of return on investment depends upon information and technological innovations. At the information innovation level, the trend toward digital knowledge as a fundamental factor of production in the marketplace is crucial to human development and transformation. At the technological innovation level, disruptions whose primary role is to share knowledge have highly impacted and changed business dynamics in organizations and industries. Information and knowledge industries are critical and essential pillars of human development and transformation. Sustainable development is sustained and sharing of knowledge and information for transparency and accountability is made possible through digital innovations and applications. Against this background, the chapter seeks to determine and forecast transformative and new applications of digital innovations in information science and humanistic knowledge. Explore pertinent and competitive digital innovations and applications in information science and humanistic knowledge. Review and analyze opportunistic developments of digital technologies in information science and humanistic knowledge. Examine solutions to harness and promote digital innovations in information science and humanistic knowledge. Finally, determine recommendations to advance digital information and knowledge.

Background Information

Digital transformation and digital technologies have highly disrupted and changed human processes. Paradigm shifts towards a digitalized economy in setting the agenda to advance human development and civilizations are irreversible. Digital transformation is the emerging and new trend in which human beings and society use electronic and social technologies (Bolat & Gül, 2019). According to these authors, the process involves a change in leadership, different mindsets, innovations and inventions, new prospects, and the application of digital solutions. In the words of Daidj (2019), digital transformation refers to new trends of technologies that have led to the implementation of radical changes in organizations and institutions. Digital economy and disruptive changes have highlighted the fundamental value of digital transformation in different disciplines based on societal impacts, opportunities, and challenges. From Sascha et al. (2021) point of view, digital transformation not only produces changes in industries but impacts societies and environments as well. In a nutshell, digital transformation implies dynamic and rapid innovations and applications of technological systems and solutions applied to solve problems in industries, organizations, offices, or homes. This emerging trend of digital disruption and practices has fundamentally and radically changed human development. The benefits to a country and its people are immense with significantly increased productivity, economic growth, and greater employment opportunities (International Telecommunication Union, 2018).

The digital economy is replete with advanced technologies that industries, organizations, and people leverage to transform and create wealth. According to John, Adarsh & Pattali (2020), society 5.0 is a

16 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/digital-innovations-and-applications-in-information-science-and-humanistic-knowledge/316591

Related Content

The Role of Social Media Marketing in the Tourism and Hospitality Industry: A Conceptual Study on Bangladesh

Md Yusuf Hossein Khan and Tanvir Abir (2022). *ICT as Innovator Between Tourism and Culture* (pp. 213-229).

www.irma-international.org/chapter/the-role-of-social-media-marketing-in-the-tourism-and-hospitality-industry/292785

E-Participating Decision-Making Mechanism in the Public Administration System: Example of E-Government Application

Konur Alp Demir (2022). *Research Anthology on Cross-Disciplinary Designs and Applications of Automation* (pp. 214-235).

www.irma-international.org/chapter/e-participating-decision-making-mechanism-in-the-public-administration-system/291636

Cognitive Effects on Firefighters in Oklahoma From Their Initial Start of Service Till the Present

DeAnjelo J. L. Bradley (2023). *Applied Research Approaches to Technology, Healthcare, and Business* (pp. 103-120).

www.irma-international.org/chapter/cognitive-effects-on-firefighters-in-oklahoma-from-their-initial-start-of-service-till-the-present/331644

Cloud Computing-Based Personal Information Management: Perspectives of Online Faculty

Antonia Bernadette Donkor (2023). *Handbook of Research on Technological Advances of Library and Information Science in Industry 5.0* (pp. 21-39).

www.irma-international.org/chapter/cloud-computing-based-personal-information-management/316573

Ecclesiastical Laws and Digital Publishing: The New Frontiers of Promulgation in Canon Law

Federico Gravino (2022). *Handbook of Research on Applying Emerging Technologies Across Multiple Disciplines* (pp. 300-320).

www.irma-international.org/chapter/ecclesiastical-laws-and-digital-publishing/301324