


Chapter 7

The Utility of Digital Maturity in Civil Engineering Field in Achieving Sustainable Development Goals

Aditya Singh

 <https://orcid.org/0000-0001-9347-5627>

Amrita Vishwa Vidyapeetham, India

ABSTRACT

In the recent years, the focus by UN has been on sustainable development goals, and it is encouraging many countries to proceed with achieving the set goals of sustainable development, which will be helpful in the long run for the whole world, as mindless urbanization will only create more problems for the future generations, while depleting the resources available on Earth. Since, Civil Engineering is essential for devilmnt of any country, so with the growing trend of digital technologies, there is a need to see how it might the said field. This book chapter will highlight the way Digital Maturity is essential in the area of Civil Engineering, and the way it is impacting the said field, while aiding humans on progressing the path of SDGs. The chapter will cover the research gaps in the current Digital Maturity based published literature in the said field & will explain the necessity. Further, the graphical analysis will help in understanding the progress of Digital Maturity in leading towards SDGs.

DOI: 10.4018/979-8-3373-3700-5.ch007

Copyright © 2026, IGI Global Scientific Publishing. Copying or distributing in print or electronic forms without written permission of IGI Global Scientific Publishing is prohibited. Use of this chapter to train generative artificial intelligence (AI) technologies is expressly prohibited. The publisher reserves all rights to license its use for generative AI training and machine learning model development.

INTRODUCTION

The term Digital Maturity means the ability of any organisation to use technologies in order to not only create value, but also to become familiarized with the digital landscape. This means the way a company is able to process as well as use digital tools in an effective manner to attain fruitful business outcomes. Digital Maturity consists of value creation for businesses as well as customers, which is essential when digital technologies are being used by organizations till the needed extent; adaptability of organizations to changes in the market along with implementation of technologies which are being emerged; and holistic method as culture, processes, people, in addition to technology are involved by organizations. Digital Maturity not only affects the satisfaction of customers, but also cost efficiency, time to market, as well as revenue growth. So, for any organization to be matured digitally, use of digital technologies is a must, which can't be overlooked. However, this brings other terms related to digital world and digital technology in the picture. So, it's time to have a glance on some common related but distinct terms before moving further in the chapter. The digital world starts with the common word Digitization, which means to convert analog into digital data. This is the basic step and first one to enter the digital world, as well as proceed further in the digital world. The next important step is Digitalization in the digital world, where digital tools are used to enhance the process and making the traditional process into digital process. Then, another popular term is Data Maturity, which means how to use and govern the data, meaning the ability of organizations to not only use data, but also to understand as well as manage the data in an effective manner. So, that means Data Maturity existed before the arrival of Digital World, as in old times Data Maturity was present for the analog system and world as well. However, in the modern world, analog system has become a thing of the past and people focus on Digital World as well as system, which is why in this chapter Data Maturity will be discussed in the context of digital world only. The next term in the digital world is Digital Maturity, which was just described earlier, has the focus on organizational capability of firms while overall ability to not only implement digital technologies but also benefit from those digital technologies across all the operations of the firm. Generally, the firms which are digitally matured are having high Data Maturity level, as data is crucial part in the digital world, as well as until and unless the proper understanding of data is not attained, using and managing data efficiently in the digital world is not possible, which must be done to reach Data Maturity. However, in the digital world, Data Maturity along with incorporation of digital technologies, in addition to gaining benefits from those digital technologies throughout all operations of the organizations, must be done to called Digitally Matured. So, in the digital world, in a way Data Maturity is a prerequisite to attain Digital Maturity. Then, another common

70 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/the-utility-of-digital-maturity-in-civil-engineering-field-in-achieving-sustainable-development-goals/392756

Related Content

How Internet of Things Is Transforming Project Management

Marisa Analía Sanchez (2021). *Research Anthology on Digital Transformation, Organizational Change, and the Impact of Remote Work* (pp. 463-484).

www.irma-international.org/chapter/how-internet-of-things-is-transforming-project-management/270308

Business-IT Alignment Barriers in a Public Organisation: The Case of Federal Inland Revenue Service of Nigeria

Gideon Mekonnen Jonathan, Aminat Abdul-Salaam, Omogunloye Oluwasanmiand Lazar Rusu (2018). *International Journal of Innovation in the Digital Economy* (pp. 1-13).

www.irma-international.org/article/business-it-alignment-barriers-in-a-public-organisation/191302

Barriers to Agility in a Large Company's IT Organization

Filip Johanssonand Lazar Rusu (2019). *International Journal of Innovation in the Digital Economy* (pp. 1-17).

www.irma-international.org/article/barriers-agility-large-company-organization/215403

Digital Sharing Economy

Vardan Mkrttchianand Yulia Vertakova (2019). *International Journal of Innovation in the Digital Economy* (pp. 40-53).

www.irma-international.org/article/digital-sharing-economy/223435

Quality-Driven Digital Transformation: Building Organizational Agility Through Systematic Technology Implementation

Simon Clevelandand Marisa Cleveland (2026). *Digital Transformation and Organizational Agility: Leadership, Strategy, and Emerging Technologies* (pp. 81-110).

www.irma-international.org/chapter/quality-driven-digital-transformation/409211