

IMPACT OF DIGITAL TRANSFORMATION TOWARDS SUSTAINABILITY AND ENTREPRENEURSHIP

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ABSTRACT

Organizations are embracing digital transformations (DTs) to improve productivity, acquire a competitive edge, and accomplish long-term sustainability goals, driven by the rapid improvements in digital technologies. Nevertheless, there are a number of elements that must be carefully considered in order for novel digital technologies to be adopted successfully. These include involving stakeholders, allocating resources wisely, mitigating risks, and ensuring that resources and implementation support are available. Within the context of digital transformations, this research looks at the long-term uptake of cutting-edge DTs. All around us and in every facet of business, digital technology has been a game-changer in recent years. Organizational change and innovation are supported by digital technology in the framework of DT. It helps companies simplify processes, make better use of resources, and develop new value offerings. Digital tools and platforms allow organizations to gather and analyze massive volumes of data, which in turn allows for data-driven decision-making and personalized consumer experiences. On top of that, digital technology makes it easier for teams to work together on projects, which helps businesses respond faster to changes in the market. It might lead to operational excellence, reimagine consumer involvement, and radically alter company paradigms. To succeed in the modern digital world, organizations must digitally change themselves and learn to use digital technology to its full potential. Both digital transformation and sustainability should be fundamental tenets of any organization's strategy, according to the study's findings. In addition to revolutionizing markets and ushering in new ways of doing business, digital technologies are also helping organizations tackle sustainability issues. The Paper is descriptive-cum-Exploratory in nature and is based on Secondary data.

Keywords: Digital Transformation; Sustainable Development; Digital Technology

INTRODUCTION

Digital transformation (DT) is now a key factor in the expansion and prosperity of organizations due to the ever-changing nature of technology. A crucial part of digital transformation for companies is the sustainable adoption of new digital technologies so they can stay competitive and meet the changing demands of their customers. The idea of continuous digital transformation is to incorporate digital technology into company processes in a way that is both responsible and long-lasting, taking into account the effects on society, the environment, and the bottom line. In order to ensure the long-term viability of these cutting-edge digital technologies, businesses must assess their impact on the environment, find ways to reduce energy usage, and cut down on electronic waste. The social ramifications of technology adoption, including issues of privacy, inclusion, and the promotion of digital literacy among customers and staff, must also be addressed. In addition to cutting costs and improving operations, businesses can help the environment, society, and the economy by lowering their carbon footprint through sustainable practices and the use of new digital technology.

Review of Literature

➤ Digital Transformation And Sustainability

Industrialization and technical progress have caused the globe to shift in countless ways over the years. The main elements driving the current state of digital transformation in the market are volatility, unpredictability, complexity, and ambiguity. In 2022, Gomez and Gonzalez examined the company-level relationship between sustainability and DT. A systematic review of 89 previous papers was employed in the investigation. We used filters for content analysis that were comprehensive. The study confirmed that it is possible to establish a research framework that views DT as both a cause and an effect of sustainability. The report's recommendations for companies looking to weather the digital revolution were to (i) improve their digital literacy and (ii) strike a balance between the economic, environmental, and social impacts of their decisions. With the proliferation of ICTs in manufacturing, the political consciousness surrounding the threats and opportunities these technologies pose to environmental sustainability is rising in importance. Regarding the anticipated implications of information and communication technologies on occupations for environmental constants, Kunkel and Matthes 2020 assessed the policies in the

digital and industrial sectors of three East Asian and Pacific Island nations and four Sub-Saharan African nations. According to the results, policies highlight a broad range of vague expectations and put more weight on the positive aspects of using ICT.

➤ **The Significance Of Sustainable Adoption In The Context Of Digital Transformation**

With DT reshaping entire industries, businesses must devise fresh approaches to change acceptance or face massive difficulties. The digitization of company operations is a direct outcome of the massive transformations occurring in both businesses and industries. The digitization of all business operations is compelling companies to rethink their strategies from the ground up. Ukko et al. (2019) looked at how digital business strategies, sustainability plans, and financial performance are related. If you want to put your digital company plan into action, you need two abilities: management and operational. According to the findings, a sustainability plan makes it easier for a digital company's strategy and financial success to work together. The study found that the sustainability strategy bolstered the correlation between competent management and financial success. The sustainability approach did, however, show a negative relationship between operational capabilities and financial performance. The institutional landscape of higher education has transformed considerably in the last several decades due to societal and technological shifts towards digitization. Colleges and universities are currently undergoing a paradigm shift in their approach to technology, viewing it as an intricate web of interconnections that facilitates digital learning. The effects of sustainably managing DT in higher education were examined by Abad et al. (2020), who looked at research trends worldwide. New technology uptake in higher education is significantly affected, according to the report.

➤ **Using Cutting-Edge Digital Technologies to Drive Digital Transformation**

Companies that are able to do business online rely on cutting-edge ICTs, or new technologies, which are opening up new avenues for expansion. Loonam et al. conducted research into the steps required to integrate DT into traditional companies. Loonam et al. (2018) outlined four main points that businesses should keep in mind when they make tangible adjustments to their digital business models. Bican and Brem (2020) state that digitization makes a substantial contribution to the United

Nations Sustainable Development Goals. Existing firms must undergo change if we are to find sustainable solutions to future economic and environmental concerns. Research combed through existing literature to arrive at a working definition and generalization that may underpin the relationships within a conceptual framework. This study defined seven important terms associated with digitalization based on a literature review in the areas of economics and management: digital, business model, digital technology, digital innovation, digital transformation, and digital entrepreneurship.

➤ **Decrees Are Used to Accomplish the Process of Integrating Spatial Data Infrastructures (SDIs) Into the Information Infrastructure of EU Member States.**

The term "spatial data infrastructure" (SDI) refers to the systems, processes, and tools that lay the groundwork for the finding of spatial data. Among the many technologies that fall under the umbrella of SDI are GPS, remote sensing, GIS, and others in the same vein. In the case of the Dominican Republic, a developing state on a small island that is prone to natural calamities like earthquakes and hurricanes, SDI aids in information exchange, while EMOs aid in decision-making. It is important to take into account the divergent goals of many stakeholders when evaluating future plans for SDI implementation in order to achieve emergency mapping objectives. Using multi-actor multi-criteria analysis (MAMCA), the reference study paved the way for various stakeholders to work together in order to establish an SDI that provides a structure for EMOs in times of emergency (Rosario Michel and Gonzalez-Campos, 2023).

➤ **Comparative Approaches to Geoportal Functionality Are Employed in Research**

The study by Soldatke et al. (2023) used the examples of the Polish towns of Puck and Wladyslawowo to show how seashore towns' spatial evolution differs both during and outside of the summer. They looked at the tourist services provided by those towns, came up with permanent solutions, made tourism seasonal, used spatial tools, surveyed locals about their thoughts on tourist traffic, built resorts for tourists, and tracked all the latest happenings with the spatial development projects in those towns. The Establishment of Preserved Areas, Special Markings on Maps, and

International Organization for Standardization (ISO) Standards as a Means to Promote Sustainable Development is Crucial.

An essential criterion is the development of an infrastructure, and the European Commission's Community Research Center has initiated the development of a geospatial data infrastructure to facilitate national-level collaboration and information exchange while also developing the INSPIRE geoportal. Using these, they have discovered new difficulties and possibilities for problem-solving. According to research by Ogryzek et al. (2019), utility networks and the property rights acquired by these firms can potentially evolve over time. Since there are now no specifics available in the systems, the information regarding remote sensing technologies is helpful for exposing rights on maps of a technical framework. Both regional and national geoportals can make use of the final product.

➤ **Several Efforts Have Been Launched in Europe to Enhance the Geographic Data Infrastructures Managed by Public and Private Organizations.**

Geographic information system (GIS) experts have just reviewed a new book by British authors that focuses on building spatial data infrastructure, and the experts in this field are widely considered to be the best in the world. The book consists of four chapters. Chapter one delves into the authors' explanations of GIS, with an emphasis on their applications and the function of AGI in outreach efforts. Prior to introducing SDIs, they describe how they work in the second chapter and explain what they are, how they work, and why they are important. Chapter 3 delves into the authors' discussion of the European SDIs that are accessible in countries including Lithuania, Northern Ireland, France, Germany, and the Czech Republic. According to Masser and Cromptoets (2007), the benefits can be as high as ten times the cost, and the most practical implications are outlined.

Objective of the Study

- To discuss the impact of digital transformation on sustainability and entrepreneurship

Research Methodology

The whole study is based on qualitative data that was collected from various secondary sources, like journals available online and offline, newspapers, research publications, magazines, books, and websites. Libraries and websites were used to compile all of the material. The data presented in the literature has all been double-checked and approved.

➤ **Digital Transformation in Today's Hypercompetitive Environment**

The fast development of technology has presented companies in today's hypercompetitive market with possibilities and threats never seen before. Organizations are embracing digital transformation (DT) as a crucial strategy to manage this new world. Digital transformation (DT) is a way of doing business that incorporates digital technologies into every facet of an organization. These changes the way firms provide value to customers and stay competitive. For companies to succeed in this age of ever-increasing innovation and upheaval, DT is now a must. With DT, companies can learn more about their customers and have more meaningful conversations with them, which strengthen their relationships. It also gives rise to new ways of making money, such as online markets and e-commerce sites. Digital transformation also gives workers more agencies by equipping them with resources that boost teamwork and creativity.

➤ **Digital Transformation with Digital Technologies**

In recent years, digital technology has grown into a powerful catalyst for change, altering not only how companies function but also our daily lives. When it comes to DT, digital technology is the foundation for organizational innovation and change. Companies can use it to improve efficiency, make better use of their resources, and come up with fresh value offerings. Companies can gather and analyze massive volumes of data with the help of digital tools and platforms, which allow them to make decisions, based on data and provide customers with more tailored experiences. On top of

that, digital technology makes it easier for teams to work together on projects, which helps businesses respond faster to changes in the market. It might lead to operational excellence, reimagining consumer involvement, and radically alter company paradigms. In this digital age, success comes to organizations that successfully transform themselves by utilizing digital technology.

➤ **Sustainable Development Goals**

The sustainable use of innovative digital technologies in digital transformation is a crucial component of achieving the United Nations' Sustainable Development Goals (SDGs). The SDGs are a set of seventeen worldwide objectives aimed at ensuring a sustainable future for all people by addressing critical economic, social, and environmental problems. The sustainable implementation of cutting-edge digital technology in DT is intimately related to many SDGs. Goal 9's stated objectives include the development of innovation, inclusive and sustainable industrialization, and resilient infrastructure. In order to achieve this objective, we must prioritize the research and development of digital technologies that will boost productivity, encourage sustainable manufacturing practices, and stimulate economic growth. Affordability, reliability, sustainability, and modernity of energy for all people are the major themes of Goal 7. Organizations may make a difference in fields like education, healthcare, agriculture, and environmental protection by embracing digital transformation and the sustainable adoption of breakthrough digital technologies. This will help them contribute to the SDGs.

➤ **The Effectiveness of The Change**

DT refers to the method by which a company's operations, strategies, and value proposition are transformed by the incorporation of digital technologies into different parts of the company. DT streamlines operations and automates manual tasks to increase operational efficiency. Online resources allow businesses to streamline operations, cut down on human error, and boost output by doing away with mundane, time-consuming jobs. As a result, team performance improves as individuals are free to concentrate on higher-level, more strategic tasks. DT enhances internal and external communication and teamwork. Teams can work together in real time no matter where they

are located thanks to digital platforms like video conferencing, instant messaging, and project management applications. Organizations can acquire significant insights into customer behavior, market trends, and operational performance through the implementation of data analytics and business intelligence technologies made possible by DT. With these insights at their disposal, businesses can enhance their performance and remain competitive in the digital age by making data-driven decisions, refining their plans, and identifying improvement opportunities.

➤ **Long-Term Sustainability Results for Establishments**

DT has the potential to boost operational efficiency, enhance customer experiences, and propel innovation, all while having substantial effects on enterprises' sustainability in the long run. Businesses may lessen their impact on the environment with the help of DT. The use of digital technologies allows firms to automate jobs, streamline procedures, and decrease the demand for physical resources. Consequently, less energy is used, fewer carbon emissions are produced, and less garbage is generated. A culture of creativity and adaptability is fostered by DT in organizations. Organizations and supply chains alike can benefit from DT's emphasis on teamwork and information exchange. Businesses can lessen their impact on the environment by reducing emissions caused by transportation by using digital platforms and communication tools that encourage collaboration rather than individual travel. With DT, businesses may have longer-lasting relationships with their stakeholders and consumers. Businesses may reach a wider audience, educate customers about the need for responsible consumption, and publicize their sustainability initiatives all through digital media. More loyal customers, a better reputation for the brand, and a more environmentally friendly company climate are all outcomes of this.

➤ **Competitive Advantage**

DT is all about taking advantage of new technology like the Internet of Things (IoT), cloud computing, artificial intelligence (AI), machine learning (ML), and artificial intelligence (AI) to improve operations, drive innovation, and increase customer value. The power of DT lies in its capacity to gather, process, and use massive volumes of data to find meaningful patterns and insights. Better operations, more personalized customer experiences, and the discovery of new business

prospects are all possible with the help of data-driven decision-making and advanced analytics. In addition, DT aids businesses in becoming more nimble and quick to react to shifting market conditions. Companies may increase productivity, save expenses, shorten time to market, and respond swiftly to consumer demands by embracing digital platforms and automating repetitive tasks. Companies may engage with customers across various touchpoints, answer their requirements, and provide bespoke solutions by employing omnichannel capabilities, personalized marketing tactics, and digital platforms. This builds loyalty and helps them stand out in the competition. To stay ahead of the competition, DT makes sure their tech investments are in line with their goals, they're always thinking of new ways to use technology, and they promote a customer-centric and digitally agile work environment.

➤ **Governance and Management: Involving Stakeholders, Allocating Resources, and Reducing Risk**

To guarantee DT's success, governance and management are crucial. Having stakeholders actively involved and participating in the transformation path is what we mean when we talk about stakeholder engagement. People in this category include workers, clients, vendors, and anybody else with a connection. Organizations can get useful insights, resolve issues, and build a shared vision for change by engaging stakeholders. Administration and management could include the distribution of resources. DT usually necessitates large financial outlays for new IT systems, staffing, education, and process reform. The key to efficient resource allocation is to determine which resources are most important for implementing change, rank them in order of importance, and then make sure those resources are available and used correctly. As part of its governance framework, DT prioritizes risk mitigation. Finding possible dangers and coming up with plans to lessen their effect are part of this approach. Possible dangers include problems with technology and security, people's reluctance to change, and problems with following regulations. To make sure the transition goes smoothly, organizations should do risk assessments and mitigation plans ahead of time. Engaging stakeholders actively, allocating resources strategically, and implementing comprehensive risk mitigation techniques are all necessary for effective governance and management of DT. Organizations can improve their odds of good DT results by taking a holistic approach to these areas.

➤ **Resources and Support for Successful Implementation**

Careful preparation, execution, and continuous support are necessary for a DT to be successful. The success of DT will depend on the team's ability to assemble a wide range of talents, including data analytics, project management, technology, and change management. Assessing the present condition, defining a change roadmap, and providing assistance throughout implementation can be facilitated by engaging experienced consultants specializing in DT to offer direction, best practices, and strategic insights. Staff members are better able to communicate with one another and share information after using collaboration tools and platforms. Another way to make sure you have access to the newest technology is to work with tech vendors and partners who can give you technical help, solutions, and advice. Organizations may boost their chances of successful DT, growth, efficiency, and customer experiences by implementing support systems and resources.

➤ **Initiatives for Digital Transformation with Sustainability Goals**

Organizations can accomplish more by incorporating sustainability into their digital strategies. Efficiency in energy use and utilization of resources can be achieved through DT activities. A company's operations can be made more efficient, less wasteful, and less energy-intensive with the use of digital tools and technologies. Reduced environmental impact and financial savings are the results of this. The utilization of renewable energy sources is the main focus of sustainable DT initiatives. Emissions of greenhouse gases can be further decreased through the use of virtualization, cloud computing, and data centers that are powered by renewable energy. By promoting greater telecommuting and online teamwork, DT hopes to lessen the environmental impact of business travel and create a greener workplace. Adopting eco-friendly practices, optimizing resource use, reducing environmental impact, and contributing to a more sustainable future are all made possible when sustainability goals are integrated into DT operations.

➤ **Digitalization And Entrepreneurship**

Research has demonstrated that advancements in technology are a major component in promoting entrepreneurship, since digitalization is a driving force behind the birth of new company concepts.

Digital technologies open up new avenues for entrepreneurs to launch their businesses and inspire fresh forms of entrepreneurship. To be more specific, digital technologies enable business owners to gain up-to-date market intelligence, become more adaptable to environmental changes, make transactions and communications cheaper, reach a wider audience, facilitate cross-border exchanges, and break down barriers across cultures, organizations, and institutions. In addition, new entrepreneurial activity is influenced by technical change driven by artificial intelligence, according to Davidsson et al. Companies are more likely to work together in ecosystems as a result of digitalization, which increases commercial cooperation and provides access to complementary resources. On top of that, because of the digital solutions that surfaced during the COVID-19 pandemic, entrepreneurs and enterprises were able to hold meetings, collaborate, and socialize virtually. You can save money on operations by using these virtual solutions instead of or in addition to physical Co-Presumption Services (CoP). The potential for virtual interaction inside incubators is being piqued by the rise of digital technology, which is driving additional research in this field.

Optimizing processes, managerial and strategic decisions, and product customization are all made easier with digital technologies, which opens up new possibilities for promoting an entrepreneurial attitude. Digital technology, according to von Briel et al., is altering the character of entrepreneurial endeavors. By lowering communication costs through cloud computing, increasing access to capital through crowd funding, and reducing investments in human labor through the use of artificial intelligence, they can drive and facilitate the startup process. In addition, Fernandes et al. acknowledged entrepreneurship's importance as a key factor in economic growth and urged additional study into the ways in which digital technologies boost entrepreneurial effectiveness. Since digitization is a multi-faceted concept, it is critical to study its effects on entrepreneurial activity, a key factor in nurturing long-term competitiveness.

Conclusion

This study's thorough literature evaluation also has significant consequences for the clinical setting. This work primarily addresses a request from practitioners for guidance on how to use digitalization to accomplish sustainability-related objectives. So, for example, this study showed that academics and practitioners don't always use the same terminology, which hinders their ability to work together

effectively. The lack of generalizability and transferability of the existing material is the most significant problem with the existing literature. Therefore, many practice stakeholders, including managers and heads of functions, marketers, purchasers, product developers and innovators, public administrators, consultants, and regulators, stand to gain from the topic's development as proposed in this study. The results of this study not only add to practitioners' understanding of the subject, but they also educate them about the details of the current academic work, which is profiled and examined in this review for the first time, and may even provide them with access to these details. Simultaneously, the research agenda that has been laid out and the areas of focus that have been suggested greatly help to address the needs of practitioners, especially when it comes to digitalization for strategic goals.

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