

Impact of Innovation and Digitalization in Healthcare NGO in Zambia

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Abstract

Globalization and international business, as well as technological innovation, have had a significant influence on healthcare around the world, including Zambia. Nowadays, most organizations are producing value with multiple partners and players by exploiting digital and innovation platforms in many areas of society. Current research, to the best of my knowledge, is still dependent on traditional methodologies and has yet to embrace interorganizational collaboration of digital transformation. In the previous few decades, the healthcare NGO has achieved a variety of goals thanks to novel ideas, leadership styles, and management digitization initiatives. With the expansion of various healthcare services and the Covid pandemic, there was a need for creative and digital infrastructures for sending information for various platforms, devices, and software in order to improve healthcare services in the region. Peer-to-peer information exchange has been allowed through innovation and digitalized platforms to build new capabilities and work with other rivals. Advances in digital technology provide up new opportunities for the creation of new goods and services. The primary goal of this article is to better understand the tactics and procedures that have resulted in creative breakthroughs in leadership styles in the healthcare NGO field. This is a qualitative study which will use in depth literature review and other non-governmental organisation data in Zambia with the intent to collect and review the various information about innovation and digitalization in their organisation in last decade or more about the changes in their work culture to improved service delivery and way of business to sustain stability and long term relationship with partners and stakeholders. I will attempt to offer a comprehensive and methodical discussion of what goes into supporting conventional solutions and why. Finally, I will focus on specific issues and concerns that are severely testing NGO health care systems.

Keywords

Innovation, Entrepreneurship, Digitalization, Smart Organization, NGO

1. Introduction

The majority of academic study has found a beneficial relationship between Information and Communication Technology (ICT) and innovation in terms of digitalization. Regardless of ongoing debates and research based on the assumption that such a positive relationship exists, it is established that, at any business level, the Internet has opened many doors for companies by providing less expensive access to markets and information on competition, the economy, and the environment. Porter (2001) emphasized the visible changes in business models and the changes in process design brought about by new ICT. Changes in cloud computing, big data analysis, and other technologies have had an impact on the digital world. As firms become more internetworked and creative, it has been demonstrated that innovation is the sole element that has contributed to long-term growth and competitiveness. Some of these changes of knowledge-driven and adaptable environments to leverage both external and internal chances to build the growth of knowledge, communication, and operations in the organization culminate in the smart organization. The expansion of digital technology, particularly in the previous few decades, has resulted in a rise in economic performance and success stories in numerous nations throughout the world.

Digital transformation, or changes in digital technologies, may result in organizational products and structures that need both technology and people. As a result, the authors' purpose in this study is to present a descriptive and thematic analysis of the smart organization from a digital standpoint by critically examining where and how digital innovation occurs. Researchers followed by have used an inductive method and conducted a systematic literature research using grounded theory and content analysis to define and conceptualize each term's relationship to the issue. "Digital entrepreneurship" refers to changes in entrepreneurial practice, philosophy, and education, and it embraces everything new and different. Old corporate conceptions, strategies, and structures, as well as practices and processes, have been turned into a new social and economic force by digital technology (Nadkarni & Prüggl, 2020).

2. Theoretical Perspective and Literature Review

Since the early 1990s, scholars have paid close attention to the literature on IT-enabled organizational transformation, a concept derived from the field of information systems. The emphasis of attention switched from technology to administrative and organizational problems throughout time. The first research on digitization and its impact on businesses began in the late 1990s. Several studies that related the Internet to corporate operations were undertaken during this time period. It is easy to declare that corporate digitalisation is also advancing due to the development of sensors and the enormous number of internal and external data sources, which offer constant access to large volumes of data on what is occurring, both within the organization and in its surroundings. To take use of it, statistical approaches and big data algorithms must be used to deliver meaningful

and important information to the organization, resulting in increased efficiency, production, and performance. Furthermore, digitalization of businesses aids in the creation of innovative business models (Bouwman et al., 2018), which, when linked with innovation, improve organizations' economic and financial success (Bouwman et al., 2018).

Leadership, culture, and employee training were shown to be equally important for effective IT-enabled transformation. Because of its disruptive character and potential for both bridge and systemic implications, digital technologies are seen as a significant instrument for promoting organizational transformation (Bhandari et al., 2023). To allow effective digital transformation, changes at various levels within the corporation, including basic business adaptability, are necessary (Hosu & Iancu, 2017). Digitalization has extended to all productive areas, probably because there is substantial evidence that digitalization improves a company's success.

Various researches suggest that the advancement of corporate digitalization and the enhancement of their performance outcomes may have some association with innovation and its management (Kumar et al., 2016; Vu, 2011). A digital transformation framework is a blueprint for how digital approaches may help any firm succeed in an ever-changing business environment. It acts as a beginning point for digital transformation initiatives, with the objective of establishing digitalization goals in order to improve company operations.

Digitization and digital transformation are concepts connected to digital innovation. Most firms today recognize that in order to remain competitive in a fast-changing market, they must reorganize, innovate, and adopt new technology. The same idea applies to non-governmental organizations. The majority of non-governmental organizations (NGOs) focus on the notion of innovation, which is facilitated by digital technology and leads to the development of new forms of digitalization. As an example, consider the following Figure 1.

The following theoretical framework is about the literature on distinct leadership styles and leadership innovation. Most successful businesses have evolved owing to their value approach and managerial competencies, which are based on

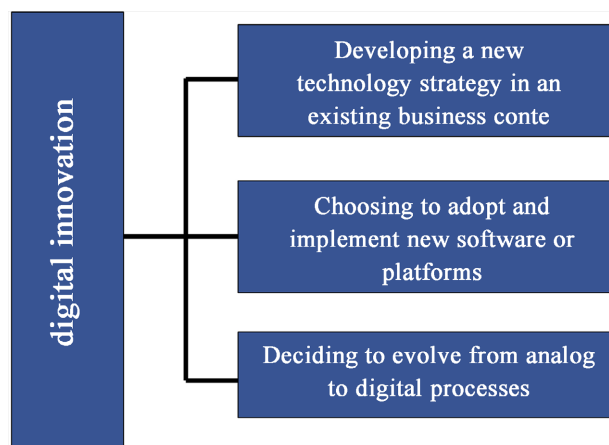


Figure 1. Structure of digital innovation.

their experiences and talents of the leaders, which include command, control, communication, and cooperation.

3. Research Design and Analysis

The Diffusion of Innovation Theory analyzes how a new technical concept gets adopted and employed in the workplace, explains the diffusion process, and helps anticipate if a new innovation will be successful (Rogers, 2008; Schilling, 2008). In other words, digitalization pushes businesses to be more connected, handle information more efficiently, and get access to more knowledge, while also improving efficiency, flexibility, personal communication tools, and digital physical infrastructures. They boost productivity and performance in this aspect (Premkumar, 2003). The integrative conceptual framework of digital business innovation skills was built through a protracted and nonlinear research process. Various literatures and studies also reveal that, during times of crisis, medical institutions are unable to handle the challenges produced by various diseases on their own due to a variety of conditions. In this moment of crisis, all healthcare professionals will need to utilize innovative and adaptable practice practices (Cadogan & Hughes, 2021). The major reasons of the crisis include inefficient healthcare system management, particularly in light of the disease's spread, and a lack of resources such as human, logistical, financial, technical, informational, and institutional resources. People's restricted access to healthcare services, ineffective state administration, a lack of strategy, and inadequate social security systems all contribute to the region's health-care issues.

The modern civilization, the human society with well-developed social organizations and culture is founded on communication through technological technologies. Digital innovation and technical progress have introduced a term before social activities with the goal of positively supporting the fundamental cause. With the growth of human elements and connection, such as health, which has become ehealth, and digital transformation with digital networking, many communications have been feasible with spatial limitations and allowed access to everyone, everywhere, and at any time. Without any differentiators, this root link has increased communication for everyone throughout the world (Belliger & Krieger, 2018).

Any design research claims to replace routine habits and has significant potential repercussions for the organizations, in contrast to many breakthroughs that involve little effort and have little influence on the organizations' practice. Consequential innovations that alter or disrupt practice may call for extensive research, consultation, training, and customization to better meet the needs of the organizations. Design research must be carefully considered since it has significant effects on business behaviors.

To produce the emergent framework, I relied on the five-stage process of grounded theory as a method for rigorously reviewing the various literature on innovation and digitalization on non-governmental organization. Current stu-

dies on digital transformation (Vial, 2019), Information Systems integration, and IT-business alignment (Oehlhorn et al., 2020) show how quickly the Information System community has adopted grounded theory for carefully analyzing literature even though it is normally utilized in the context of empirical data analysis. After identifying the relevant basis of innovation within the literature, semantic decomposition helps to identify patterns to fit in analysis by a process involving sociotechnical combinations of digital technologies and resources to create new innovative ideas or processes.

After phasing out outmoded techniques and processes, a successful high-quality healthcare system must implement a novel state-of-the-art approach for improved outcomes at reduced costs. To accomplish the altered impact, health care innovation with standard standards and new, scientifically sound procedures with goods and services is required. This is where the notion of diffusion of innovation comes into play. Diffusion is the social reaction that people have after hearing about an invention, such as a new, evidence-based method for extending or improving healthcare (Cho et al., 2022). In its conventional definition, diffusion refers to how an innovation spreads through time among members of a social system via certain paths. In diffusion research studies, time of adoption is commonly the dependent variable, but when complex NGO organizations are the adopters, subsequent execution is a more relevant indication of change. The four main components for the dissemination of innovations in any NGO are the social system, innovation, communication, and time. At the persuasive stage of the innovation choice process, every company requires its creative concept at the appropriate moment for its correct social interconnected unit systems with adequate communication channel to spread information.

4. Discussion

Given the disruptive nature of many modern digital technologies, I believe that firms must fundamentally refresh and rethink their key business concepts in order to properly exploit the promise of digitization and eventually achieve successful transformation. Based on a thorough literature review by product and process, this study presents a conceptual model for smart businesses focusing on technological innovation. According to this integrated paradigm, business intelligence, creative orientation, environmental comprehension, adaptation, and continual learning all play important roles in technological innovation. It is also proposed that digital entrepreneurship serves as a bridge between smart organizations and technological innovation. This article examines both the growth of concepts and the proposal of new research topics, and organizations may work more swiftly and effectively, giving rise to new entrepreneurial efforts and excellent commercial consequences. Finally, as products and services across sectors become more digitally digitized, entrepreneurial opportunities in markets are becoming more connected with digital technology. According to the findings, the conventional view of IT development as secondary to company strategy must

be modified.

Multiple research investigations have indicated that the slow and uneven translation of research into practice has been a barrier to the uptake of desirable technology. Sophisticated care procedures are more likely to be used later or not at all in poor communities. New big data analysis and AI capabilities, as well as visualization techniques, provide up new avenues for tracking and visualizing the spread of innovation. Various nations' health ministries have actively invested in new technologies such as artificial intelligence and digitalization in order to link with various research institutes and local healthcare colleges in order to enhance quality services (Glauner et al., 2021). Many studies have shown that individuals use at least one online platform for services and value the functionality of electronic systems. In Zambia, the Ministry of Health has largely implemented Smartcare for patient information systems with the following areas in mind:

- General activity coordination and management.
- Patient information digital infrastructure and data collecting.
- Emergency management.
- Web data and social influence.
- The use of big data and artificial intelligence in policymaking.
- Inclusion of many infectious disorders.

Zambia's challenges with inadequate digitization projects and programs have become worse as a consequence of the absence of strategy implementation of the country's medical organizations' transition to the digital age due to insufficient finance at the both national and international levels (Gjellebæk et al., 2020). During times of emergency, the government is lifting restrictions on the number of highly advanced medical services available. The development of internet-based services for patient's medical surveillance and counseling is also accelerating. The government increased its strategic management of healthcare facilities through national action plans and directives, increased collaboration with regional healthcare departments, research institutes, and regional healthcare facilities with foreign organizations. The pandemic's spread prompted the government to increase its efforts in facility coordination, infrastructure digitalization, economic effect analysis, online data collection, telemedicine development, and artificial intelligence deployment. The government has made significant investments in electronic certificates for travelers seeking electronic confirmation at any time.

Encouragement of innovation is a popular and widely debated political aim, although it appears to fall short in a number of ways. To validate the most effective innovation models and highlight the scenarios where each method succeeds best, research is necessary. Policies must encourage creativity studies and knowledge transformation. Advanced research and data management approaches that accelerate distribution, implementation, and responsiveness can meet specific needs. Implementing automated decision support in both the digital and electronic health care records is an effective technique for putting learning into action.

The concept of recombining digital and physical components helps the non-

governmental organizations to centralized digital systems with their assets, knowledge, and research by repeatedly emphasizing the eccentricity of innovation. There is need for greater understanding of how generating particular categories of skills and knowledge might assist strategies for and helpful guidance on how to identify, prioritize, access, and recombine skills and knowledge in light of the pervasiveness of digital technology and the fact that there is a virtually infinite amount of knowledge. The digital enabled forms of collaboration facilitate exchange of information and ideas across time and space to benefit digital innovation. Various individuals are empowered to participate in complex innovation processes to provide sophisticated digital tools and services. This helps to find out various knowledge typologies research questions like how does digital technology enable the creation of new form of innovation and what role knowledge combination helps in creation of digital innovation? How can organizations design tools and processes to improve innovations with their limited resources?

Advances in digital technology have helped develop the economy and conditions of the organizations who serves various communities in the region. The digitalization with innovation has entered in various sectors of organizations to improve wisdom and culture in addition to the changes in pattern of economic behavior and productivity.

Participating or donor organizations should develop a set of practice change guidelines to handle the numerous needs of frequently and rapidly improving processes. Indicators of practice change or dispersion might be used to track the spread of innovations. Significant technical breakthroughs are driving the development of an increasing number of connected medical devices that can produce, gather, analyze, and transfer data. The Internet of Medical Things (IoMT) concept assumes that these technologies will provide more value to healthcare, from pregnancy testing kits to prosthetic joints and surgical equipment or scanners, in order to increase efficiency and develop new methods to engage and empower patients. The following are some of the advantages of IoMT:

- Improved Pharmacy Management.
- Cost effectiveness.
- Enhances Patient Experience.
- Improved diagnosis and treatment.
- Remote Chronic disease management.
- Improved Patient Management.

Some of the key enablers that have driven IoMT toward success are as follows:

- Collaboration between health care providers and medical organizations.
- Integration of many stakeholders.
- Advanced analytics to give vital critical insights for better decision making.
- Partner Services to improve services while lowering costs.
- New data harvesting tactics.

Numerous sophisticated technologies such as m-health, AI, and robotic surgery have aided the healthcare business in improving quality services by making them more comfortable through various logistics reasons. With mobile phones,

m-health has helped to cut expenses by reducing transportation and logistics expenditures in order to deliver quick and efficient services.

5. Conclusion

In today's world of dynamism and severe competition, NGO organizations' primary concern is to discover the entrepreneurial role that leads to various types of innovation and to validate the types of these phenomena that produce the best results for their organizations. Before digging into the implications of the suggested paradigm, it's critical to first grasp what it implies. First, despite its wide approach, the model may not be ideal for all non-profits. Scholars and academics may dispute on the notion and characteristics of smart organization, making it hard to precisely integrate it in a single model. One of the most significant theoretical consequences is that organizations may and should be perceived as intelligent and ambitious entities. In this research, I attempted to acquire data largely from peer-reviewed academic publications, as instructed by [McWilliams et al. \(2005\)](#). Meanwhile, current megatrends require that businesses get digital. Many non-governmental organizations, on the other hand, are preparing to embark on complex digital transformation initiatives that will encompass all aspects of their operations in order to rethink how they operate.

The study's purpose is to provide a valid measure of smart organisation depends on elements such as business skills, creative orientation, environmental understanding, flexibility, and continuous learning. The impact of these elements on technological innovation, such as product and process, is presented from the perspective of digital entrepreneurship. The difficulty is for non-governmental groups to determine the role of entrepreneurship. Because there has been little study in this field, the suggested model is important because it conceptualizes the factors and their direct and indirect effects on innovativeness. Because of the extensive involvement and seamless integration of digital applications and linked devices, the health care industry may shift from a function that is ideally optimized to one that is effectively patient-centered and data-driven.

As a result of great scientific technology improvements, the globe is today seeing an astonishing flow of discoveries and innovations. The spread of innovation in health care may be aided by responsive policy. There has never been a better time than now to begin an ambitious, deliberate, and forward-thinking distribution of healthcare discoveries with the goal of transforming healthcare systems and changing conventional habits. This is owing to advancements in clinical research, substantial breakthroughs in tailored medicine, intelligent information management, and several other technical improvements.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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