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Digital Transformation in the Public Sector during the COVID-19 Pandemic and how it was impacted by Leadership: Literature Review.

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Abstract – Digital transformation has been slow in the public sector due to the culture and leadership of institutions. The advent of the COVID-19 pandemic created a change in the attitude and confidence of leaders with regard to the adoption of digital transformation. In this article, the focus is on digital transformation in the public sector and how it was impacted by the pandemic and organisational leadership by mostly reviewing studies conducted between the years 2019 to 2022. The changes in the work environment made public institutions more digital and required new skills in order to manage the process and the organisation through these turbulent times. A new kind of leadership known as "digital leadership" was formed as a result of the e-work environment that resulted from information technology's advancement and incorporation into organizational processes.

Keywords – Covid-19, Digital Leadership, Digital Transformation, Leadership, Pandemic, Public sector

1 Introduction

The development of information and communication technologies (ICTs) has radically changed our social and economic lives, and has had a profound effect on the way organizations are managed (Yusoff et al., 2010). The functioning of governments in diverse countries has not been spared by these developments. Due to their individual usage of technology, individuals and organizations have pushed for this transformation. The advent of computers and internet technology heralded the dawn of a new era where public administration systems were expected to improve customer satisfaction, increase efficiency, reduce operational costs, and enhance effectiveness (Osei-Kojo, 2016). Modern governments have changed their character completely from institutions perceived as bureaucratic and slow, to become pioneers in the implementation and consistent development of information technology in management (Pyszka, 2018). Public organizations today are concentrating on improving their operations continuously, which calls for the necessity to keep

an eye on their objectives and take remedial action. Many countries are now positioning digital transformation as a lever for the revitalization of public administration towards improved efficiencies, effectiveness and reduced cost in delivering public services (Bwalya & Mutula, 2015).

These developments have led to a change in the work environment of the public sector which has been bureaucratic and slow, further enhancing a shift in demand for new leadership skills. The leaders of these institutions are now being driven to stir the organisations to rethink their relationship with citizens (Ansell et al., 2021). The advent of the global pandemic of COVID-19 has led the public sector to accelerate its adoption of technology in mitigating some of the effects of the pandemic. This was due to the fact that governments all around the world instituted various lockdowns, ranging from partial to total lockdowns, to stop the virus's spread. This meant that most governments could not continue to conduct business as they relied on physical presence. They had to adopt digital platforms in order to survive the lockdowns and the new normal.

This literature review will focus on investigating studies that have considered digital transformation in the COVID-19 pandemic era and how leadership has affected it. Most of the studies being reviewed will be within the period 2019 to 2022 as this was the era of the pandemic. It starts out with a larger view of how governments handled the COVID-19 pandemic and how technology was used to mitigate some of the impacts, particularly in the public sector. Then we investigate the influence of digital leadership on the public sector's digital transformation during this period while highlighting some challenges of the current leadership styles. This will then lead to the proposed digital transformation and leadership relationship model during the covid-19 pandemic.

2 Research Methodology

The methodology was based on a review of the relevant literature. Searches were done online using tools like Google Scholar and Semantic Scholar. Boolean operators of OR, AND, and NOT were used in the search as keyword combinations or word exclusions. The literature that was discovered was listed in an article summary table, assessed for applicability, and then categorized into sub-categories. The results of additional context analysis were used to develop a relationship model and conclusion.

3 Literature Review

3.1 The COVID-19 Pandemic

COVID-19 has grown into a global economic disaster that could surpass the 2008–2009 financial crisis, in addition to being a global public health emergency (Loayza & Pennings, 2020). Never before in human history has a crisis forced governments to order companies to close and workers to stay at home,

resulting in a major negative supply shock (Cèspedes et al., 2020). Furthermore, the labor supply shock includes mortality from infections, morbidity from infections, and morbidity from caring for affected family members (McKibbin & Fernando, 2020). Businesses that depend on the physical presence of human resources to produce goods and provide services have encountered difficulties as a result of the statewide lockdown and the shock in the labor supply. Since COVID-19 is a really global issue, containment and mitigation initiatives as well as international collaboration in economic policy, health care, and science are all required (Loayza & Pennings, 2020). Policymakers are therefore under pressure to develop efficient macroeconomic policy solutions. One factor that is often overlooked is that the dynamics of COVID-19 and the efficacy of public health interventions are influenced by people's perceptions and aspirations of current and future economic policy (Chang, 2020) especially those in the informal sector.

Given that each country has experienced the COVID-19 pandemic's effects differently, governments all around the world have been searching for economically sound ways to respond to it. To prevent the coronavirus from spreading, many organizations have implemented various types of lockdowns ranging from partial to full lockdowns. Saving lives and preserving livelihoods, particularly for the informal sector, has proven to be difficult. The lockdown measures had an impact on about 1.6 billion informal workers because staying at home and not working resulted in many of them having to choose between starving to death or contracting the virus (ILO, 2020). In reality, individual decisions to comply or not with COVID-19 related public health directives depended on economic variables and incentives (Chang & Velasco 2020). Despite the effects on the informal sector, even the public sector operations were not spared, especially since most of them required physical presence in order to function. These challenges necessitated governments to consider digital transformation or technology to help lessen some of the pandemic's impacts.

3.2 Digital Transformation and Public Sector

The idea of digital transformation is not new. Business practices in industrialized countries have already benefited from a surge of innovative business solutions and automations (Hemachandra & Sharkasi, 2021). In order to discuss digital transformation, we first look at some definitions of the term. The first one is that “it’s a comprehensive, holistic concept that allows the revision of the core processes and makes changes to the culture, organization, relationships, and business models, enabling the delivery of sustainable outcomes in the long term and creation of value for citizens and organizations” (Mergel et al., 2019). Another definition means that “fundamentally new capabilities are created in business, public government, and in people’s and society’s lives” (Martin, 2008; Reis et al., 2018). It is also defined as how businesses use digital platforms to tackle issues and carry out their daily operations and not just having an online presence or holding meetings on virtual platforms (Hemachandra & Sharkasi, 2021). However, in order to accomplish the goals of this study, we shall adopt the definition of digital transformation in

the public administration as being the “application of a strategy for the implementation of many well-thought-out and justified digitization projects” (Gabryelczyk, 2020). The public sector had to undergo the digital transformation process despite being hampered by the bureaucratic culture and employee resistance to change (Koryzis et al., 2021). This was partly because the development of information and communication technologies (ICT) has radically changed our social and economic lives and has had a profound effect on the way organizations are managed (Yusoff et al, 2010). These changes have not been kind to how governments are managed in different countries. Due to their individual use of technology, citizens and businesses have increased the need for this transition. The advent of computers and internet technology heralded the dawn of a new era where public administration systems were expected to improve customer satisfaction, increase efficiency, reduce operational costs, and enhance effectiveness (Osei-Kojo, 2016). Modern governments have changed their character completely from institutions perceived as bureaucratic and slow, to become pioneers in the implementation and consistent development of information technology in management (Pyszka, 2018). The focus of public organizations today is on continual operation improvement, necessitating goal monitoring and remedial action. Many countries are now positioning digital transformation or digitalization as a lever for the revitalization of public administration towards improved efficiencies, effectiveness and reduced costs in delivering public services (Bwalya & Mutula, 2015). This adoption has further been impacted by the global COVID-19 pandemic, which posed a threat to the way of life as we knew it by creating a new normal. Most institutions accelerated their adoption of technology as a way to lessen the pandemic's consequences. But the question still remains: was this really digital transformation or just digitization?

3.3 Digital Transformation and the COVID-19 Pandemic

Digital transformation in public institutions, especially those of developing countries, has been slow in terms of the adoption process. This is mostly attributable to the nature of public institutions, which must be made more adaptable and quicker to react to challenging situations like the COVID-19 pandemic (Ansell et al., 2021). The other reason is the culture of public institutions of zero-error and lack of decentralized flexibility, innovation, and adaptability, which always views mistakes as indicators of ineptitude or a lack of motivation for employees (Ansell et al., 2021). This is an obstacle to handling turbulent situations, which necessitate extensive prototype experimentation. However, the lockout allowed both the public and private sectors to make some progress towards digital transformation, even though this was typically accomplished through experimentation which did not favour the public sector (Nachit & Belhcen, 2020). The pandemic exposed the short coming of the systems within the public sector to support digital transformation. The pandemic's abrupt and unanticipated escalation of the limits placed on the systems, together with current global digital transformation initiatives, served as the primary catalyst for the advancement of digital transformation (Hemachandra & Sharkasi,

2021). It has been seen that given the correct motivation or when working toward a more important goal like battling the COVID-19 Pandemic, even the highest barriers to the digital transition can be overcome (Koryzis et al., 2021). These advancements have prompted a reform of institutional procedures, primarily for reasons of business continuity more than efficiency (Gabryelczk, 2020), that is, ensuring service delivery continues without interruption despite significant changes in the context.

The pandemic has hastened the intended digitalization process for companies, particularly those that are in the early phases of the transformation process, and made the adoption of digital transformation an urgent priority matter (Nachit & Belhcen, 2020; Hemachandra & Sharkasi, 2021). It has also altered how digitality is understood and perceived, even though there is still necessity to increase digital awareness due to the lack of confidence in government online services (Gabryelczk, 2020; Nachit & Belhcen, 2020). Further, this change in attitude has also impacted managers who have to make decisions on the funding for the digital transformation process. This is critical because public resources are constrained and investments in ICT may compete with other potential priorities. As a result, it is essential to evaluate the relative impact of changes in leaders' ICT attitudes while analyzing the digital transition (Barrutia & Echebbarria, 2021).

3.4 Digital Transformation and the Digital Leadership

ICT is not the only factor in the digital transformation from a holistic standpoint, but it is one of the most important (Barrutia & Echebbarria, 2021). The other factors include the attitude of the leaders within the public sector towards digital transformation, especially that there are other competing needs for the same resource envelop. Leaders' attitudes have improved as a result of COVID-19, and they now support digital transformation and are more confident in the capacity of ICTs. This change has been more pronounced than other problems like climate change, citizen participation, and privacy (Barrutia & Echebbarria, 2021). This strong leadership buy in was at the helm of the success of the implementation of digitalization during this COVID-19 period, mainly using the top-down leadership model. The leaders formed part of the stakeholders that enhanced digital transformation based on their perception of its benefits (Koryzis et al., 2021).

The pandemic generated a new work environment that called for new leadership skills and exposed the shortcomings of the present leadership models (Dwianto et al., 2021; Gabryelczk, 2020). We could not rely on the current leadership styles during these turbulent times because they needed to conduct thorough investigations and yet this period required leaders to work under pressure and in unpredictable situations without having enough information about cause and effect (Ansell et al., 2021). As a result of the e-work environment created by the growth of information technology and its integration into organizational processes, a new type of leadership known as digital leadership (DL), or rather e-leadership was born (Dwianto et al., 2021). There is no consensus on what constitutes digital leadership, but some examples include

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managing a virtual organization and overseeing the process of digitalization transition as well as the resulting organization (Albrecht, 2017; El Sawy, et al., 2016; Klein, 2020). However, due to structural issues, implementing this digital leadership in the public sector continues to be very difficult (Dwianto et al., 2021). Public organizations needed to establish, foster, and improve their working relationships with pertinent and impacted actors because COVID-19 had a broad impact on the public (Ansell et al., 2021). Horizontal collaboration between professional groups, organizations, and sectors must be facilitated by public leaders, who must let the job or challenge determine the team rather than decide which area of the organization should take the initiative (Ansell et al., 2021). As people turn to public authorities for reliable guidance during tumultuous times like the COVID-19 issue, this period has demonstrated that public leaders must improve their communication abilities (Ansell et al., 2021). The digital transformation was critical in mitigating some of the effects of these communication gaps.

4 Summary: Digital Transformation and Leadership Relationship Model during the COVID-19

Following the literature review, we have deduced that there seems to be a relationship among the components; Covid-19, Digital Transformation, Leadership and Public sector institutions as depicted in figure 1.

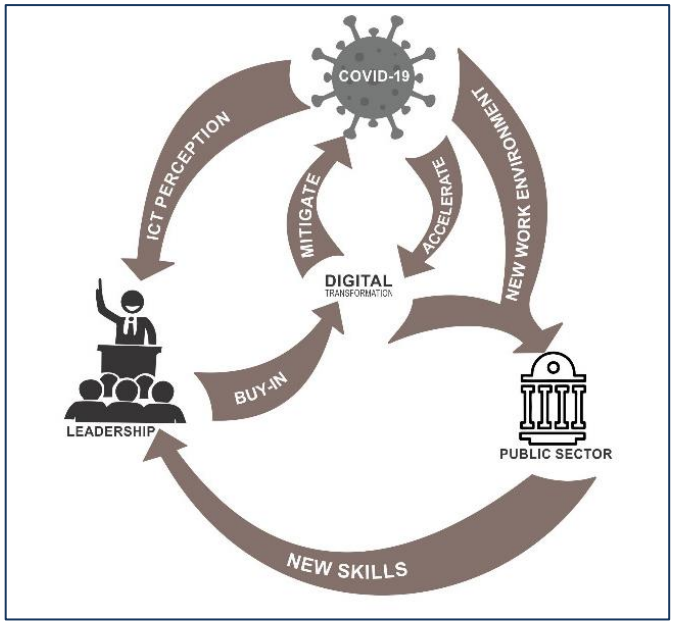

Figure 1: COVID-19: Digital Transformation & Leadership Relationship Model

The relationship is that COVID-19 has altered leaders' perceptions about information and communications technology (ICT) in comparison to other areas including climate change, citizen participation, and privacy, which has improved support for digital transformation (DT) (Koryzis et al., 2021; Barrutia & Echebbarria, 2021). It has also helped to lessen the consequences of the pandemic and sped up the implementation of DT in the public sector, especially for those who are just beginning this process (Hemachandra & Sharkasi, 2021). The pandemic and DT has created a new work environment (Dwianto et al., 2021) in the public sector which has placed a demand on leadership for new sets of skills to manage the DT process as well as the organisation.

Future empirical research is required to determine the degree of association or whether there is a cause and effect between the various elements of the suggested model.

5 Conclusion

Through this literature, it has been noted that digital transformation has been slow in the public sector due to the culture and leaderships of the institutions. The transformation required a more agile and adaptable structure, as opposed to the bureaucratic and slow nature of traditional public administration. However, the advent of the COVID-19 pandemic created a change in the attitude and confidence of leaders towards ICT in the public sector. This assisted with accelerating the adoption of technology as the stakeholders understood some of the benefits. Further, in the turbulent times of the pandemic, the culture of zero-error in public administration could not work well with the culture of experimentation and without the full information of the cause and effect. All these shortcomings in leadership necessitated a new kind of leadership known as "digital leadership," formed as a result of the e-work environment that was established as a result of the growth of information technology and its absorption into organizational activities.

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