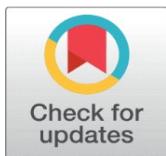
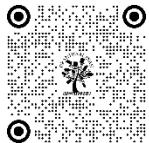


UNDERSTANDING THE EFFECTIVENESS OF DIGITAL LEADERSHIP FOR DIGITAL TRANSFORMATION

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ABSTRACT

Fluoride is one of the elements that impact human health at levels lower and higher than the standard, also is considered as a health problem in most areas of the world, where about 200 million people from 25 countries are exposed to high or low concentrations of fluoride from groundwater sources. This descriptive and analytical study was conducted in Shendi City to identify concentrations of fluoride in ground water. 150 samples of ground water were tested per season (50 samples for each season), the water samples were collected from ground water sources (wells), distribution system and storage facilities that are used directly by community. Analyzing of samples had been completed according to standard methods for examinations of water, in this study used photometer device for determination concentrations of fluoride. Our study revealed that: the quality of ground water in study area is low fluoride content and below the optimum levels that recommended by WHO and SSMO guidelines for drinking water and seasonal variations have effects on fluoride's solubility and concentrations. Based on the findings of this study we recommend that: community must not depend totally on ground water as main source for fluoride, and community in study area should be use other sources for fluoride intake to obtain on daily required amount of fluoride for protection the health. Digital technology has become one of the most important competitive factors for most firms in the modern age. In attempts to increase income, increase effectiveness, and enhance the supply of services, organisations have technologically altered their offerings. Like that A technological leadership that can support this kind of development is necessary. It is to be expected of a digital executive to start the process of digitization, oversee it, and even raise money for it. In order to accomplish the objective of digitization, a digital executive has to possess certain traits and actions. This study examined the traits of digital management in particular, and using an exploratory factor analysis (EFA), it was possible to identify associated traits, or variables, that were categorized into roles. All 23 elements loaded correctly, and the EFA yielded 7 factors. The Confirmatory Factor Analysis yielded a better match for the collection of data by including 4 variables and 13 components.

Keywords: Digital Leadership, Digital Transformation, Innovation, Agility, Collaboration, Inclusivity, Data-Driven Decision Making, Continuous Learning, Technical Skills

1. INTRODUCTION

At this moment, people are seeing the widespread integration of digital technology across several industries and aspects of the human condition. The capacity for digital technology to bring about digitalization and transformation might alter virtually every aspect of contemporary civilization. Electronic devices are revolutionizing a number of fields and areas, including science, commerce, politics, management, schooling, and communications. These shifts have a profound

impact on how organizations are run, products are provided, and values are communicated to clients. Authorities, businesses, and associations have already experienced a significant digital shift, and they anticipate further difficulties in the months to come. Technologies like innovative delivery theories, social networking sites, mobile computing, ubiquitous computing, and new tools and techniques for data exploitation are ultimately what make these shifts possible. Organizations are adopting digital growth due to a multitude of variables. In order to adapt their corporate networks to the forthcoming digital age, the change is making use of lower costs for software and hardware, as well as global network connectivity. Digital advances are reshaping standard company tactics to allow work to be accomplished across limitations of location, time, and work.

Digitalization has completely changed the agricultural industry by providing more accessible, effective, and comprehensive extension services. This has benefited decision-making in farming by enabling farmers to make well-informed decisions. As a result, borders are removed to support international trade and commerce, and service delivery happens faster and with less time investment thanks to digital revolution.

Key company activities are changing as a result of the digital revolution, which also has an impact on corporate structures, organizational ideas, and goods and procedures. Within companies, environments, industries, or disciplines, the cumulative impacts of several digital breakthroughs during the digital age give rise to new participants, frameworks, practices, attitudes, and convictions that alter, put at risk, replace, or enhance the current guidelines for the competition.

An organization's digital transformation is a complicated process encompassing individuals, technology, and procedures that calls for extra care and control. A company is an example of a system that is interdependent where changes in one area, such as social, would impact changes in other areas, such as technical, and how those areas interact. Leadership is thus crucial in the digitization process, and reimagining and enacting change in the way the business runs is an essential component to digital conversion.

1.1. OBJECTIVE

The traits and attributes of digital managers must be carefully considered, since digital development views digital technology as the medium through which progress is mediated. Therefore, the goal of this study is to investigate the traits of digital managers that are required to guide a business toward a digital transformation. The final objective is to support companies in acquiring the management and leadership abilities necessary to use digital technology, since this will promote both conventional and technological development.

Figure 1

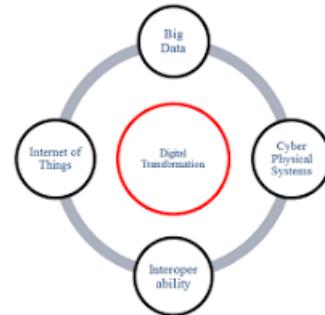


Figure 1 Factors of Digital Transformation

2. LITERATURE REVIEW

2.1. ADVANTAGES AND CHALLENGES OF DIGITAL TRANSFORMATION

Advantages: Digital technology gives a digital corporate organization an advantage in internal as well as external affairs. A digital enterprise's processes and policies are transformed by the use of technology. Various academics have documented significant developments in the digital realm in various settings and industries in the last several years. The use of computer technology may alter the ways that individuals communicate within their work environments, accomplish their work targets, and carry out their duties in the public industries, which are primarily concerned with supplying services. This could increase employee freedom and innovation at work, boost company efficiency, while enhancing citizens' access to (self-) services. The benefits of digital transformation for businesses on overall performance and productivity have been verified by researchers. GOV.SA lists the following as the fundamental benefits of digital conversion:

- 1) Replace traditional workflow with digital processes;
- 2) Spend more time researching new development strategies rather than clinging to past successes; iii. Modify the professional, modern working model, continuously enhancing employees' spiritual lives;
- 3) Boost workflow efficiency and reduce technical errors; Quickly and flexibly implement new services and technologies;
- 4) Enhance work quality and performance; Boost labour productivity and enhance the quality and appearance of products; Continuously enhance beneficiary satisfaction; Boost reinvestment ability.

Figure 2

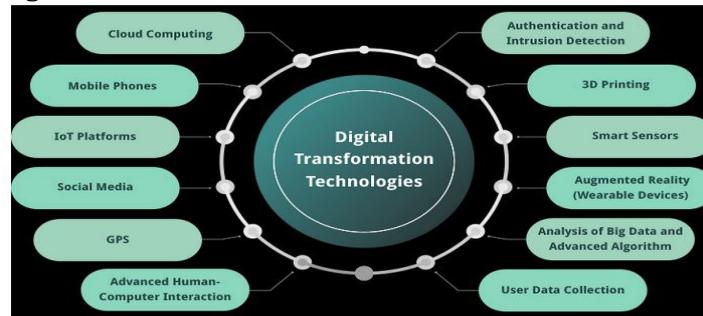


Figure 2 Digital Transformation Technologies According to GOV.SA

Challenges:

Digital business transitions confront several hurdles, with alterations to computer technologies and their utilization serving as the primary catalysts for deviating from existing paths.

Absence of a well-defined plan for the digital transformation process: Companies must establish a clear vision for how they will satisfy the digital demands of their clients, measure their goals versus that vision, and carry out their plans and schedules accordingly. A company may not prosper or mature digitally if its goals for digital change are not clearly stated, together with the reasons for and timing of any modifications that are needed.

Organizational difficulties: These could be related to the challenges that arise with switching from unified methods and norms to new ones since intricate organizational frameworks could want to guarantee that their current company practices impede development.

Cultural Challenges: Though older employees struggle to comprehend how digital change would affect their job security, younger staff members appear more receptive to new technology and hence support it.

Technical obstacles to leading transformations and digitization efforts: Technology and talent are needed in tandem to initiate digital transformation since it presents a plethora of unique technological difficulties that need the proper people to overcome. One of the challenges is figuring out which tools and accompanying capabilities are acceptable.

Skills for Digitalization: The undertaking of digital transformation may face difficulties due to a lack of resources and insufficient planning for handling resources. Thus, to start the project smoothly, thorough evaluations of the resources that are needed and those that are accessible must be done.

Formation of the transformation team and management: Since digital change impacts the whole company, an effective team should have expertise in a few areas and flexibility across others. The digital development group is responsible for organizing, setting priorities, carrying out, and overseeing the digital change of an organization.

Safety, legal, and data protection issues: Establishing safety measures that strike an equilibrium between data access and safeguarding it is vital since digital transformation raises issues with security and confidentiality of data.

User-related difficulties: According to Maltese, one of the main risks that has to be controlled is not living up to customer standards in terms of the functionality provided and the time it takes for delivery. This may make technological products less acceptable and less usable.

3. DIGITAL LEADERSHIP

Organisations undergoing digital transformation must move more quickly in order to take advantage of the new possibilities made possible by enhanced digitalisation. In order to match customer demands, organizations need to concentrate on coming up with imaginative concepts that provide value for their clients, designing electronic services fast utilizing cutting edge technology, and developing organizational capacity to offer these services. This calls for an individual who can make decisions quickly and wisely and who has the ability to persuade others to behave in ways that will result in the desired and efficient performances. Depending on advances in technology and digitalization, creative behaviour, the setting or setting in which it is implemented, and pre-existing concepts of leadership and styles, scholars have described digital leadership in a variety of ways. According to Mihardjo & Sasmoko, digital administration combines an organization's culture with a leader's skill to use the latest technology to generate value. El Sawy claims that this concept highlights the distinction between the two types of leadership. According to Bennis, management is about doing the right thing, but leadership is about acting morally for the benefit of the company.

Figure 3



Figure 3 Digital Leadership

4. CONCEPTUALIZING DIGITAL LEADERSHIP

Researchers have diverged in their conceptualization, measurement, and investigation of management, concentrating on various qualities or settings. To explain leadership, some academics have looked at the leader; others have studied leadership from an interpersonal, category, or follower-centered viewpoint; still others have concentrated on comparing the characteristics and conduct of leaders; still others have used literature on cognition and emotion to clarify leadership and its consequences.

The traits that support digital innovation and allow the start and execution of digital transformation inside an organization while transferring information and abilities to colleagues are pertinent to digital leadership. In order to succeed in all of these, a digital leader must be able to:

- 1) garner remarkable support, confidence, and dedication from participants of the company;
- 2) persuade administration and other members of the team that the projects related to digital transformation are feasible;
- 3) lead by establishing a mission that calls for the change of the organization and inspire followers to achieve the goals set forth;
- 4) motivate members of the company to believe that what they are doing will result in amazing digital transformation; and
- 5) continue in the digital transformation structure in even with limited resources and quickly evolving digital technologies.

Figure 4

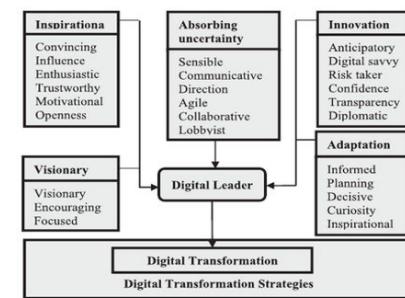


Figure 4 Conceptualizing Digital Leadership

5. METHODOLOGY

This study examines the traits and actions that characterize the concepts of digital leadership using the method of quantitative research. A survey based on self-report was filled out by participants who were selected from various Tanzanian groups. Although there is still much to be said on the features of digital leadership, a comprehensive review of the research and investigation of the leadership achievement metrics from the GLOBE survey assisted in determining the fundamental qualities of a digital leader and in crafting the questionnaire questions.

6. RESULTS

Respondents and Characteristics

In all, 212 respondents from 4 institutions, 2 media outlets, 1 ministry, 1 insurance fund, 2 examination councils, and 4 regulatory authorizers participated in this research. A minimum of fifty workers make up these companies, while some employ over five hundred people. There were 57 (26.9%) female responders and 155 (73.1%) males who participated. The majority of the universities chose to take part in the study; according to the findings, 85(40.3%) and 99(46.8%) of the participants held doctorates. The majority of leaders (i.e., 98 (72.3%)) have held their position for three to ten years.

Table 1: Characteristics of Respondents

Gender			Education Level			Age			Work Experience		
Sex	T	T%	Education	T	T%	Range	T	T%	Years	T	T%
Female	57	26.9	Bachelor Degree	26	12.2	20 - 30	20	9.40	< 3 years	29	13.7
			Doctorate Degree	85	40.3	31 - 40	73	34.5	< 6 years	29	13.7
Male	155	73.1	Form Six	1	0.70	41 - 50	82	38.8	< 10 years	37	17.3
			Master's Degree	99	46.8	50 - 70	37	17.3	> 10 years	117	55.4
Total			Total	212	100	Total	212	100	Total	212	100

7. DISCUSSION

The Need for and Effects of Digital Leadership: Digital leadership is important for businesses to get through the complicated process of going digital. To make sure that digital projects are good, leaders in this field need to have certain traits. Some of these are having a clear vision for digital adoption, being able to motivate and inspire teams, and being able to easily add new technologies to current systems (Schiuma et al., 2022). Effective digital leaders put learning and new ideas at the top of their list of priorities and create an environment that pushes people to try new things and be flexible.

Important traits of digital leaders: Tech-savvy and people-savvy skills are both important for digital leaders. To understand and use new technologies, people need to be technically savvy (Geremew, 2024). On the other hand, leaders need soft skills like communication, flexibility, and strategic thinking to handle change well. Leaders should also be good at making decisions based on data, making sure that digital strategies are in line with both company goals and customer wants.

Discoveries in the Digital Transformation: Cultural resistance, technology problems, and the need to keep learning new skills are some of the problems that come with going digital. One big problem is that some workers don't want to use new technologies, usually because they're afraid of their jobs or don't understand how they work (Schou and Bucher, 2023). To deal with these issues, digital leaders

need to create an environment where everyone feels welcome and where learning is always going on. They should also make sure that all team members are ready to use new digital tools and methods.

Strategies for Good Digital Leadership: People in charge of digital change must be able to clearly explain their vision and make sure it fits with the organization's overall goals. All stakeholders should be told about this goal to get their support and buy-in. It is very important to promote a mindset of innovation. Leaders should support flexible methods that let people try new things and make changes quickly (Gratton, 2021). This way, the company can quickly adapt to changes in the market and new technologies. It is very important to create places where people can work together and share their thoughts freely. Digital leaders should make sure that all employees, no matter what role they hold, feel like they are a part of the change and are given the training and tools they need. It is important to use data analytics to help make strategic choices (Benitez et al., 2022). Data should be used by digital leaders to find trends, track success, and make real-time changes to strategies. The organisation needs to keep investing in the growth of its digital skills. Leaders should put training programmes and classes at the top of their list of priorities to keep their employees up to date on the newest tech trends and methods.

Aspect	Summary
Impact of Digital Leadership	Essential for navigating digital transformation across various industries.
Key Attributes	Blend of technical knowledge and soft skills like communication and strategy.
Challenges	Cultural resistance, technological hurdles, need for skill development.
Vision and Strategy	Articulate clear vision aligned with organizational goals.
Innovation and Agility	Promote agile methodologies for rapid experimentation and response.
Collaboration and Inclusivity	Foster collaborative environments and ensure inclusivity in transformation.
Data-Driven Decision Making	Use data analytics to inform strategic decisions and adjust strategies.
Continuous Learning	Invest in ongoing development of digital skills through training programs.
Conclusion	Digital leadership is crucial for successful transformation and future growth.

8. CONCLUSION

The research has looked at how leadership behaviours, traits, and related positions may be used to describe the concept of digital leadership. The EFA and CFA are demonstrating their value in role-assigning and demonstrating the qualities of digital management. The normal leadership model is made up of elements of the tasks assigned to fans and colleagues, such as reaching agreement among members, influencing others at work, acting as a team leader, mentoring others, inspiring team participants, making the right decisions, and leading efficiently. It is validated by the CFA and backed by reliability assessments. Organization management may make use of the study's results when evaluating the traits, demeanour, and duties of leaders—particularly digital leaders. Businesses may use the insights to improve its management module and more successfully identify prospective leaders.

Organisations might establish rules for selecting or hiring leaders taking into account the study's results and other aspects of management.

CONFFLICT OF INTERESTS

None.

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REFERENCES

Avolio, B. J. (2007). Promoting more integrative strategies for leadership theory building. *American Psychologist*, 62(1), 25-33.

Bass, B. M., & Steidlmeier, P. (1999). Ethics, character, and authentic transformational leadership behavior.

Benitez, J., Arenas, A., Castillo, A. and Esteves, J., 2022. Impact of digital leadership capability on innovation performance: The role of platform digitization capability. *Information & Management*, 59(2), p.103590. <https://drive.google.com/file/d/1GMu72Y1jThQOMpGbqOiHSsyn9OoYXMGg/view>

Bennett, N., & Lemoine, J. (2014). What VUCA really means for you. *Harvard Business Review*, 92(1/2).

Bennis, W. G. (1989). On becoming a leader. United States of America: Addison-Wesley Reading, MA.

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: toward a next generation of insights. *MIS quarterly*, 471-482.

Geremew, Y.M., 2024. Redefining hospitality leadership with digital disruption events: digital transformative leadership for building resilient and digital organizational citizenry. <https://theses.lib.polyu.edu.hk/bitstream/200/12822/3/7273.pdf>

Gratton, L., 2021. How to do hybrid right. *Harvard Business Review*, 99(3), pp.65-74. <https://www.managingpartnerforum.org/tasks/sites/mpf/assets/image/MPF%20FEATURED%20ARTICLE%20-%20How%20to%20Do%20Hybrid%20Right%20-%20HBR%20-%205-21-21.pdf>

Schiuma, G., Schettini, E., Santarsiero, F. and Carlucci, D., 2022. The transformative leadership compass: six competencies for digital transformation entrepreneurship. *International Journal of Entrepreneurial Behavior & Research*, 28(5), pp.1273-1291. https://www.researchgate.net/profile/Francesco-Santarsiero/publication/351567932_The_transformative_leadership_compass_six_competencies_for_digital_transformation_entrepreneurship/links/63e68bd8e2e1515b6b8763bd/The-transformative-leadership-compass-six-competencies-for-digital-transformation-entrepreneurship.pdf

Schou, P.K. and Bucher, E., 2023. Divided we fall: The breakdown of gig worker solidarity in online communities. *New Technology, Work and Employment*, 38(3), pp.472-492. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/ntwe.12260>