



**IDENTIFYING THE CRITICAL SUCCESS FACTORS FOR DIGITAL TRANSFORMATION STRATEGY IN THE PUBLIC SERVICE: EVIDENCE FROM KENYA**

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**ABSTRACT**

*Digital transformation strategy refers to a detailed plan of adoption of digital tools and methods by an organization. Innovation, creativity, and digital transformation have been gradually transforming societies for decades. Extant literature from a number of studies, opinion pieces and publications from practitioner outlets present recorded benefits of digitalization from businesses that chose to adopt the use of ICTs to radically change the way they do their businesses. These studies revealed that success from digital transformation attempt is recognized when firms manage to make necessary adjustments to their business and digital strategies, organizational structure, culture as well as their processes. In the recent past, the Kenyan government has found itself under pressure from its citizens to increase its digital transformation to aid the provision of services. Building upon findings of previous studies this review paper employed Altimeter’s framework in categorizing and ranking critical success factors for successful implementation of digital transformation strategies in Kenya’s public service. The review identified 26 factors from different articles and categorized them into 8. The identification of these factors were based on key words to search relevant articles for review. The findings indicated that processes and technology should be given top priority in order to sustain transformation and public value while execution, insight and intent received low ranking. This paper may be useful to policy makers in the public sector in Kenya as it may help in the identification of critical success factors in the development and implementation of digital transformation strategies.*

**Key words:** *Critical Success Factors, Digital Transformation, Digitization, Public Service*

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## INTRODUCTION

Today, businesses are changing due to new information and communication technologies, but not many understood how to leverage this phenomenon for their benefit. The digital transformation (DT) is essential for all businesses, irrespective of their size and sector of economy. Digitization is viewed as a new source of growth, efficiency, or relevance in an increasingly digital world. This usually includes new communication and service delivery channels (including via mobile devices) with internal and external users, data-informed decision making and business processes based on larger and larger volumes of data, enhanced human resources capabilities, and new procurement mechanisms (Nadkarni and Prügl 2021).

These transformations allows businesses to optimize their operations and gain in performance, efficiency, and competitiveness through the adoption of management behaviours, new tools, new methods of work but also new reflections and organizations. Big Data, Artificial Intelligence, Augmentation, Cloud Computing, Social networks and the Internet of Things among others offer new opportunities based on innovation and focused on the needs of the consumer.

While the practice of digital transformation in private sector organizations has more tangible drivers and often more immediate results, the practice in government must also consider public purpose and involves additional factors of ownership and persistence of public data, data security and privacy, digital service accessibility for everyone, and public digital literacy (Nadkarni and Prügl 2021). Digital transformation strategies have great potential to modernize government and public services, and to make them more flexible and accessible. In recent years, there have been marked improvements in citizens' experience of new digital public services. However, overall progress towards transforming the way government operates and towards using data to understand organizational

performance through better application of digital technology has been slow (Thornton, 2018).

The COVID-19 pandemic magnified the reliance on digital tools to study, work, live, and govern. Now more than ever, governments see the urgency to digitally transform its operations. The pandemic highlighted digital technology's perils as we grapple with questions of citizen safeguards and digital justice, and it has exacerbated the chasm between the digital "haves" and "have nots." It has shown us that the most resilient countries may not be those with the highest GDP per capita or the most ventilators, but rather those that have learned the lessons from prior pandemics, moving quickly to use their digital and data tools to understand and act on the problem and reach their population with critical information and services. Digital transformation efforts and responsible data use policies have become global priorities. Despite the growing recognition that digital tools are critical and the high-level commitment to digital cooperation, global development actors (GDAs) still lack shared agreement on what to invest in and how best to align efforts. Without a shared, evidence based view analyzing which pathways accelerate digital transformation, we are unlikely to effectively align multilateral efforts to achieve the Sustainable Development Goals (SDGs).

In recent years, governments all over the world have conducted a number of initiatives to explore new digital technologies and to exploit their benefits. This frequently involves transformations of key operations and affects processes, culture, structures and management concepts. Digital transformations enables government employees to benefit due to fewer repetitive tasks paving the way to higher levels of job satisfaction. However, to create a seamless experience, governments must transform the entire public administration; it's a significant challenge but by no means beyond their capabilities.

The private sector has raised the bar on the customer experience, and people expect governments to keep up. For many, it is a matter of trust: citizens who are satisfied with a public service are more likely to trust the government than those who are not. This study therefore sought to establish the extent of digital transformation in Kenya and the presence or absence of the relationship between digital transformation strategies and public service in Kenya.

### **Research Question**

What are the Critical Success factors of Digital Transformation?

## **LITERATURE REVIEW**

### **The Concept of Digital Transformation**

Technological changes have been remarkable since the industrial revolution in the 1760s through constant upgrades and improvements (Schmarzo, 2017). The revolution in the early twentieth century was characterized by the development of electricity enhancing mass production. In the 1960s, computer technology shaped the third industrial revolution with the introduction of personal computers and the internet. The fourth and final industrial revolution has been recently characterized by high levels of artificial intelligence, the internet, information, networks, and machine learning (Schwab, 2016).

Digital transformation is not limited to technology adoption or processes improvement by integrating new technologies. The digital transformation implies the reflection and adoption of new business models with new paradigms (Pihir, Tomičić-Pupek, and Tomičić Furjan, 2019). Indeed, the disruptive changes implied by Digital Transformation can only be considered in the context of a strategic renewal of the company that integrates the digital orientations (Matt, Hess, and Benlian, 2015). It is about aligning business and digital objectives, allowing the implementation of a single digital strategy for the company, built on the basis of a multidimensional corporate strategy.

The current third era of digital transformation challenges has affected governments, the non-profit sectors, the business community, and consumers in equal measure. Schmarzo (2017) argues that this generation of digital transformation aims to improve efficiency in production, service delivery, management of risks, and uncover new monetization opportunities across the world.

The exploitation and integration of these technologies often affect large parts of businesses and even go beyond their borders, by impacting products, business processes, sales channels, and supply chains. Potential benefits of digitization are multiple and include increases in sales or productivity, innovations in value creation, as well as novel forms of interactions with customers, among others. As a result, entire business models can be reshaped or replaced (Downes and Nunes 2013). Owing to this wide scope and the far-reaching consequences, a digital transformation strategies seeks to coordinate and prioritize the many independent threads of digital transformation. In a 2020 Deloitte survey of 1,200 government officials from more than 70 countries worldwide, three-quarters indicated that digital technologies are having a major impact on the management of public sector. The respondents in the same study characterized this impact as significant disruption.

On the other hand, Bertini, (2016) asserts that the digital transformation has affected individuals' lives as well as the operations in both the non-profit and for-profit sectors. In essence, the need to achieve rapid economic growth has led to the exploitation of natural resources at an alarming rate with technological transformations being at the center of these efforts (Dang and Pheng, 2015).

In this study, digital transformation is conceptualized as the intercept of the adoption of disruptive digital technologies on one side and actor-guided organizational transformation of capabilities, structures, processes and business model components on the other side. Rice *et al.* (1998) defines disruptive innovations as 'game

changers' which have the potential to improve performance to existing products; create the basis for a reduction in costs; or have new-to-the world performance features. Tushman and Anderson (1986) distinguish between product/service and process disruptiveness. Product/service disruptiveness encompasses new product/service classes, product/service substitutions, or fundamental product/service improvements. Process disruptiveness may take the form of process substitutions or process innovations which radically improve industry-specific dimensions of merit or the way business is handled in the public institutions.

### **Digital transformation and Covid-19**

The Covid-19 health crisis has led to spectacular environmental changes that have not only encouraged, but also drove companies and governments to rise to the challenge of digital transformation in order to secure their employees work and the product and service offer to their customers and citizens. The pandemic has significantly accelerated the digital transformation being at once a challenge and an unprecedented opportunity for companies (Zaoui, and Souissi, 2020).

COVID-19 pandemic forced both the public sector to develop new technologies to enable work to take place remotely, without letting pandemic to affect the provision of quality public services to the citizens. The most crucial trait of this service is that it offers quality, quick, and most importantly secured interaction between the public servants since in many cases there are confidential and classified issues covered from the different bodies of the public sector. Likewise, the digital transformation offers the same privileges to members of the Kenyan academic and research community, enabling them to organize and participate in high definition and secured video conferences.

Despite the negative effects of COVID-19, most countries globally seized the opportunity to develop and upgrade the e-government services in order to

help their citizens to be connected with government services while staying at home during the lockdown. This development was not only crucial for making governmental services safer, easier, and user friendly for the public in the battle against COVID-19, but also for making much needed services available online reducing the time for implantation (Karamalis, P., and Vasilopoulos, A. 2020). Swedish Tax Agency and the Swedish Association of Local Authorities and Regions (SKL) investigated whether the existing process for registering paternity could be supported using an e-service. They found out that indeed public service development indeed can drive transformation, the study further documented that ongoing transformations in societal values can drive digitalization. A change in societal values spurred the initiative to make changes in the service process, and the attempt to realize these changes highlighted the need for additional organizational and institutional changes in turn (Lindgren and Van, 2018).

Africa presents a sea of economic opportunities in virtually every sector, and the continent's youthful population structure is an enormous opportunity in this digital era and hence the need for Africa to make digitally enabled socio-economic development a high priority. Digital Transformation is a driving force for innovative, inclusive and sustainable growth. Innovations and digitalization are stimulating job creation and contributing to addressing poverty, reducing inequality, facilitating the delivery of goods and services, and contributing to the achievement of Agenda 2063 and the Sustainable Development Goals.

### **Digital Transformation and Public Sector in Kenya**

At the heart of growth in digital transformation in Kenya, one of the leading technology powerhouse in Africa is the increased access to and use of ICT. The availability of internet services, for instance, has been driven by the development of internet infrastructure, particularly fiber optic and mobile broadband, but also the availability of affordable



data-enabled devices. As of June 2019, data/internet subscriptions stood at 49.9 million, with mobile data internet subscriptions accounting for over 99.9 percent of these subscriptions (CAK, 2019). Broadband subscriptions are about 44.5 percent of the total data/ internet subscriptions in the country and have increased five-fold since 2014, to over 22 million as of June 2019 (CAK, 2019), enhancing access to high-speed internet for better service delivery, communication, and accessibility of information including that needed for international trade.

Policies supporting digital transformation in Kenya ICT is identified as an enabler for socioeconomic transformation in Kenya (Republic of Kenya, 2007). The Kenya ICT policy (Ministry of Information and Communications, 2006) and a recent draft revision promote ICT as a developmental tool, through increased use of information technologies, the development and use of e-government to improve efficiency and the quality of public service delivery, and the development of IT infrastructure. The ICT policy is based on the principles of keeping pace with changes in technology, providing universal service access at an affordable cost, ensuring adequate competition, encouraging innovation, standardizing ICT products and services for quality, maintaining global connectivity and safeguarding privacy and security. The policy has provided a framework for enhanced use of ICT in both government and private enterprises. Over 48 percent of government institutions have an IT policy (CAK and KNBS, 2018).

The new Digital Economy Blueprint (Republic of Kenya, 2019) is expected to build on this foundation. Furthermore, in 2019 the country enacted a modern data protection law (Republic of Kenya, 2019), which is compliant with the European Union's General Data Protection Regulation. The new data protection law will go a long way towards creating the right environment for investments in digital services, as well as the use of these services by individuals and firms.

In 2013, the Kenyan government implemented the Huduma (service) Kenya programme, which aims to transform public service delivery by providing access to various public services and information. The programme, through its integrated technology platform, provides one-stop shop citizens' service centres (Huduma Centres) at various counties in the country. In 2014, the government rolled out an e-Citizen web portal to enable public online access to government services, including filing returns and payment of taxes, renewing drivers' licences, registering businesses and applying for passports and birth and death certificates, among other services. The platform also offers options for payment, including through mobile money, debit cards and e-Citizen agents. These programmes have made access to the various public services and information much easier, while also improving service delivery efficiency, convenience and timeliness.

Disruptive technologies such as artificial intelligence, robotics, blockchain, drones, the Internet of Things, big data and software-enabled industrial platforms have great potential to impact economic development. For example, M-Pesa transformed the financial sector by significantly increasing financial inclusion, as well as opening up the possibilities of new business models and opportunities such as Pay Go, digital credit, and (for better or worse) mobile betting (Republic of Kenya, 2019).

The numerous technological innovations in Kenya highlighted are vital in transformation of the public service, but beyond digital tools, the government must rethink their mindset, structures, and culture. It's imperative that the public sector re-imagines how digital innovation can be harnessed to enhance citizens' user experience of public services. Policies and services need to be designed and developed from a user-first perspective that prioritizes simple, clear, and transparent interaction and fast results. Amid COVID-19, taking decisive action becomes an imperative. The government needs to ensure speedy and efficient processes and compressed

delivery timelines, particularly to alleviate backlogs that have built up during the pandemic.

We conclude that this development was not only crucial for making governmental services safer, easier, and user-friendly for the public in the battle against COVID-19, but also for making much-needed services available online. It is important to note that Kenya continues in the expansion of its digital services in many more sectors to achieve a unified governmental system and help companies and citizens to benefit from this implementation saving money and resources.

The following table provides an insight into the eight categories of success factors as proposed in

the Altimeter framework. A short definition of each factor as well as its impact in digital transformation is given

### Altimeter's Framework on Factors of Digital Transformation

Altimeter's "OPPOSITE" framework is an acronym that represents the best practices guiding transformation efforts around the digital customer and citizen experience. This framework was employed in this study to categorize, rank and explain the critical success factors of digital transformation in the public service in Kenya.

**Table 1. The eight success factors used for the study, their definition and function for the projects**

Category	Definition	Implication
<b>Orientation</b>	Establish a new perspective to drive meaningful change.	An organization built on the "inside out" model, meaning that it is organized around internal processes and functions should update and focus on customer needs, wants and priorities
<b>People</b>	Understand customer/citizen values, expectations and behaviors.	This requires digital transformation buy-in at all levels, all employees and leadership— so that the entire organization is aligned to digital goals and strategies.
<b>Processes</b>	Assess operational infrastructure and update (or revamp) technologies, processes and policies to support change.	Have contact center, which is a key platform for delivering great customer experiences, and make it collaborative, unified, and intelligent.
<b>Objectives</b>	Define the purpose of digital transformation, aligning stakeholders (and shareholders) around the new vision and roadmap. Meet your digital transformation objectives.	Set goals for digital transformation— what specific areas do you hope to improve through digital transformation? What kind of metrics are you hoping to achieve?
<b>Structure</b>	Form a dedicated digital experience team with roles/responsibilities/objectives/accountability clearly defined.	This ensures the entire team is aware of objectives and processes so as to be centered on purpose.
<b>Insights &amp; Intent</b>	This is about gathering data and applying insights toward a strategy to guide digital evolution.	Data can help you streamline experiences across customer/citizen journeys, no matter how they interact with your brand.
<b>Technology</b>	Re-evaluate front and back-end systems for seamless, integrated and native customer/citizen experiences and, ultimately, employee experiences.	Use technology to promote trustworthiness and meet ever-increasing customer expectations. Ensuring content and communications are platform-proof so that algorithm changes do not interfere with customer experiences.
<b>Execution</b>	Implement, learn and adapt to steer ongoing digital transformation and customer/citizen experience work.	Evaluate the state of transformation frequently so that adjustments if necessary can be made.

## Digital transformation framework

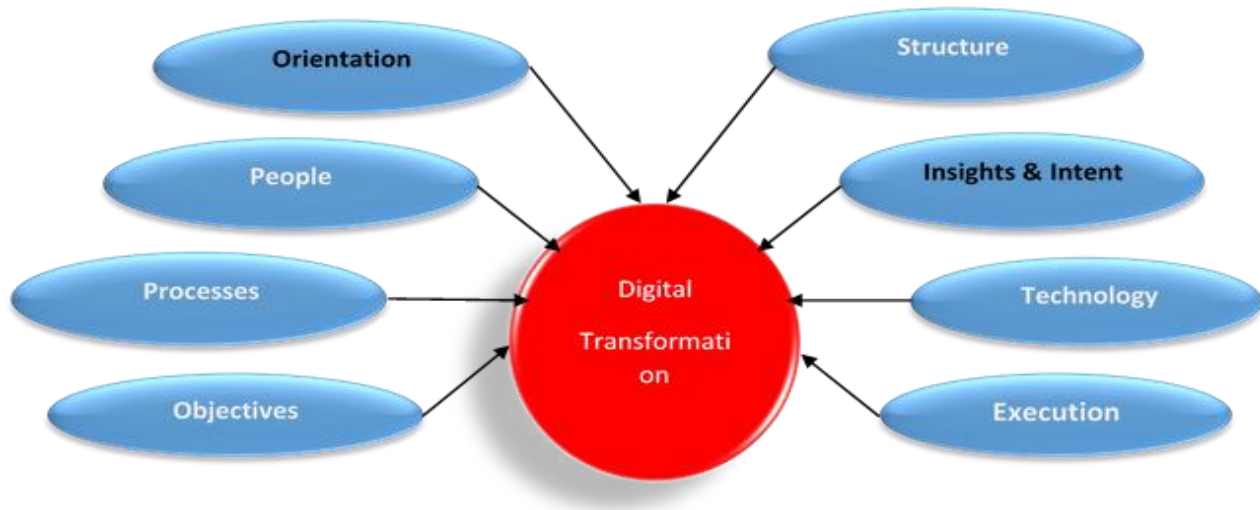


Figure 1: Altimeter Framework

### METHODOLOGY

This study was conducted by analyzing the literature on the extent of digital transformation and identification of critical success factors of digital transformation in Kenya’s public service, systematically. The aim of a systematic review is to identify all empirical evidence that fits the pre-specified inclusion criteria to answer a particular research question (s) or hypothesis. By using explicit and systematic methods when reviewing articles and all available evidence, bias can be minimized, thus providing reliable findings from which conclusions can be drawn and decisions made (Moher *et al.*, 2009).

The literature review focused on top critical success factors gathered from different researches on digital transformation and categorized them based on Altimeter’s “OPPOSITE” framework an acronym

that represents the best practices guiding transformation efforts around the digital customer and citizen experience for analysis. These best practices are orientation, people, processes, objectives, structures, insights & Intent, Technology and execution.

### Analysis of Digital Transformation Critical Success Factors

The essential approach of success measure was employed through businesses and functions. Total 26 CSFs were tabulated and categorized into Altimeter’s 8 categories namely, orientation, people, processes, objectives, structure, insight & intent, technology and execution factors. Subsequently, factors are numbered based on its occurrence making it easier to rank them based on the number of occurrence.

Table 2. Categorization and ranking of Critical success factors

S/No	Critical Success Factors	No. of Occurrence	Ranking
1	Orientation	3	5
2	People	5	3
3	Processes	7	1
4	Objectives	2	6
5	Structure	4	4
6	Insight & Intent	1	7
7	Technology	6	2
8	Execution	2	6

Source: Research Data (2022)



## Discussion

This study relates to writing of a review paper on the identification of critical success factors for the successful digital transformation strategy in Kenya. In the first phase, extensive and systematic literature review was conducted during which more than 30 different studies on digital transformation in the public service were considered. We identified 26 success factors that were then categorized based on Altimeter's framework. These factors were then numbered based their occurrence in various studies.

The most important factor that came out for the success of digital transformation in the public service in Kenya is processes. It is a quite evident fact that processes in the public service matters a lot, develop a contact center, which is a key platform for delivering great citizen experiences, and make it collaborative, unified, and intelligent. A second success factor is technology, technology promote trustworthiness, accountability and meet ever-increasing customer expectations, it is through technology that transformation can be achieved. In the public sector technology can be used to develop and run strategies to counter vices that bedevil service provision.

People is the third most important factor for digital transformation, the people component is the most difficult to manage, a successful strategy on digital transformation is one in which this factor is taken care of since it's the one that identify and drive all the other factors to make the transformation a success. It is therefore important to understand citizen values, expectations and behaviors. Structure was ranked as the fourth success factor, a very important aspect of transformation, this is because the service provision in the public service is often hampered by such factors like red tape, bureaucracy and tall structures. For digital transformation to be successful, the structure should be flatten considerably through technology where citizens will feel like they are seamlessly getting services without being hindered. Orientation was ranked as the fifth factor, a digital

transformation strategy that is not well oriented to the stakeholders will fail. A responsive and citizen centric public service should be organized around internal processes and functions focusing on citizen needs, wants and priorities.

Objectives and execution were ranked sixth, digital transformation strategy has to be clearly defined to guide all the players in the public sector. The goals for digital transformation and specific areas to be improved as well as the metrics to be used to measure its success should be clearly spelt out. When objectives are clearly spelt out then the strategy will be successful. On execution a robust evaluation on the state of transformation should be done frequently so as to make adjustments where necessary. When evaluation is done thoroughly, there are tremendous chances that the digital transformation strategy will succeed. Lastly, intent and insights is also a factor that must be considered when rolling out a digital transformation strategy. This is about gathering data and applying insights toward a strategy to guide digital transformation. Data gives the necessary insights that will help in the implementation of digital transformation strategy.

## CONCLUSIONS AND RECOMMENDATIONS

This review paper has underscored the fact that digital transformation strategy within the public sector is not a task to be fulfilled by public administrations alone. The change in the relationship between public administration and citizens implies that citizens have a more active part. They should not just be seen as a client of public administrations, but as a co-participants that helps to transform public sector organizations by actively participating in public service delivery enabled by new disruptive technologies.

By securing greater participation of citizens it is easier for a public sector organization to achieve long term goals and have a substantial impact through value creation created by digital transformation strategy.

This paper recommends the formulation of effective and inclusive policies to improve the digitalization of the in the public sector by taking into account the eight categories of factors as

suggested in the Altimeter's framework. This will positively influence the degree of institutionalization of digital technologies.

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