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Leadership, Strategic Foresight, and Digital Transformation for Sustainable Development in Africa: A Conceptual Analysis

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Abstract

Digital transformation (DT) has emerged as a strategic imperative for organisational competitiveness and societal progress, carrying profound implications for sustainable development. This conceptual desktop study examines the intersection of leadership, strategic foresight, digital transformation, and sustainability, with a focus on contextualising global insights to the African, and specifically South African, environment. A literature-based analysis is employed to explore how effective leadership models and strategic thinking can harness digital innovation for inclusive and sustainable outcomes. The paper discusses contemporary leadership theories (transformational, adaptive, ethical, and inclusive leadership) in the digital era, and how these leadership approaches facilitate or hinder sustainable digital transformation. It highlights global trends and examples, then applies a "funnel approach" to African contexts, addressing opportunities for digital leapfrogging as well as challenges such as the digital divide, governance issues, and capacity gaps. Drawing on recent studies and reports, the literature indicates that visionary and responsible leadership is central to aligning digital initiatives with sustainability goals, from corporate settings to public governance. African case studies illustrate that strong political will and contextually grounded leadership (e.g. informed by indigenous values such as Ubuntu) are crucial for successful digital initiatives. The study concludes with implications for practice and policy, emphasising the need for ethical, inclusive, and strategically foresighted leadership to drive digital transformation that advances equitable and sustainable development in Africa.

Keywords: Digital transformation, Leadership, Strategic foresight, Sustainability, Ubuntu

1. Introduction

1.1 Background

Digital transformation (DT), the integration of digital technology into all aspects of an organisation, has become a strategic imperative for businesses, governments, and society at large (Alojail & Khan, 2023). More than just adopting new IT systems, true digital transformation entails a fundamental change in processes, culture, and strategy to leverage technologies for improved value delivery and adaptability (Kludacz-Alessandri et al., 2025). In today's hypercompetitive and volatile environment, organisations

pursue DT not only for efficiency and competitiveness, but also as a means to achieve broader sustainability and development goals (Alojail & Khan, 2023). The United Nations Sustainable Development Goals (SDGs) underscore the potential of digital innovations to address societal challenges, from improving education and healthcare to fostering economic growth.

However, successful digital transformation is not guaranteed: studies show that up to 70% of digital transformation initiatives fail to meet their objectives, often due to human and organisational factors rather than technology limitations (Suljic, 2025). In particular, leadership and strategic vision have emerged as critical determinants of whether digital initiatives thrive or falter. McKinsey & Company (2023) report that inadequate leadership is a primary barrier to many failed transformations, whereas organisations with digitally adept leaders are over twice as likely to achieve transformational success. This highlights an urgent need to examine how leadership approaches and strategic thinking can effectively drive digital transformation in a sustainable and inclusive manner.

This paper provides a comprehensive conceptual review of the intersection between leadership, strategic foresight, digital transformation, and sustainable development, with a focus on contextualising insights into the African continent. The paper adopts a "funnel approach": first reviewing global perspectives and frameworks, then narrowing down to African contexts and case examples. The study is a conceptual desktop research, drawing on recent literature (primarily 2018–2025) to synthesise current knowledge. Key questions addressed include:

- *What leadership models are most effective for steering digital transformation towards long-term sustainable outcomes?*
- *What strategic capabilities must leaders develop to navigate the complexities of digital initiatives?*
- *How can digital transformation be aligned with sustainable development priorities, especially in African settings characterised by unique opportunities and constraints?*

1.2 Aim and Scope

By tackling these questions, the paper aims to contribute a theoretical foundation and practical insights for scholars and practitioners interested in digital-era leadership in Africa and the Global South. In particular, this study offers a unique theoretical contribution by proposing an integrative framework that links leadership and strategic foresight with digital transformation outcomes in the context of sustainable development, especially for Africa. The remainder of the paper is organised as follows:

1. Define digital transformation and its link to sustainable development, establishing the global context.
2. Explore contemporary leadership theories relevant to digital transformation (including transformational, adaptive, and ethical leadership) and discuss the importance of strategic thinking and foresight in complex, technology-driven environments.
3. Examine the African context, highlighting both the challenges and the opportunities for digital transformation on the continent.
4. Discuss how leadership approaches in Africa can integrate global best practices with indigenous knowledge and inclusive values to ensure digital initiatives create broad public value.

5. Propose an integrative conceptual framework linking leadership, strategy, digital transformation, and sustainability, and offer conclusions and implications for research and practice.

2. Methodology

This study is a conceptual literature review, employing a "desktop research" approach to synthesise relevant literature from 2018 to 2025. Targeted searches were conducted in academic databases and search engines using keywords such as *"digital transformation", "leadership", "strategic foresight", "Africa",* and *"sustainable development*". Influential reports from international organisations (e.g. the World Bank, the African Union) were also reviewed to incorporate practical insights.

Inclusion criteria focused on sources that addressed the intersection of leadership, digital transformation, and sustainability, with an emphasis on African contexts or globally relevant frameworks. Peer-reviewed articles, recent conference papers, and high-quality industry or policy reports published in roughly the last seven years were prioritised, while referencing a few seminal works for theoretical background. Sources that were purely technical or outside the scope (for instance, lacking a leadership or sustainability perspective) were excluded. This approach ensured a comprehensive and current foundation for the conceptual analysis.

3. Digital Transformation and Sustainable Development: A Global Perspective

Digital transformation refers to the process by which organisations and societies leverage digital technologies to fundamentally improve or reinvent their operations, service delivery, and value propositions (Alojail & Khan, 2023). This goes beyond mere digitisation (converting analogue processes to digital), and involves deep, strategic changes. For example, adopting artificial intelligence (AI), cloud computing, the Internet of Things (IoT), big data analytics, and other emerging technologies can enable new business models and more efficient processes (Suljic, 2025). However, as noted by Suljic (2025), *"the process of digital transformation extends far beyond the mere adoption of advanced technologies"*, requiring *"a profound reconfiguration of organisational frameworks, operational paradigms, and leadership philosophies"* to cope with a volatile, innovation-driven world. In other words, technology is only one piece of the puzzle. Successful digital transformation demands aligning technological change with organisational strategy, culture, and workforce capabilities.

3.1 Sustainable Development

Crucially, digital transformation is increasingly seen as a means to advance sustainable development. Organisations are integrating environmental, social, and governance (ESG) considerations into their digital strategies to ensure that technology adoption not only yields economic gains, but also positive societal impact (Alojail & Khan, 2023). For instance, firms are pursuing "green IT" initiatives to reduce energy consumption and e-waste, deploying digital platforms to improve access to education and healthcare, and using data analytics to enhance transparency and accountability in governance. Recent empirical evidence supports the synergy between digital transformation and sustainability. Alojail and Khan (2023) found that *"integrating sustainability principles into the digital transformation process significantly improves transformation effectiveness"*, as reflected in better environmental, social, and economic performance

indicators. Organisations that aligned their digital transformation goals with the UN SDGs achieved stronger long-term outcomes, underscoring that *"digital initiatives yield greater lasting value when guided by sustainable objectives"*. Similarly, a survey of 760 stakeholders by Alojail and Khan (2023) reported that companies that deliberately *"arrange digital transformations with sustainable objectives"* tend to enhance the overall success and longevity of their transformations.

Global development institutions have also recognised the pivotal role of digital transformation in achieving sustainability and inclusive growth. The World Bank's Digital Economy for Africa initiative asserts that *"every individual, business, and government in Africa will need to be digitally enabled by 2030"* in order to realise the continent's development ambitions, as enshrined in the African Union's Agenda 2063 and the SDGs. The World Bank (2020) emphasises that reaching this vision *"will take leadership and a vision to push the frontiers of innovation so that Africa can own its 21st century"*. In other words, beyond infrastructure and investment, visionary leadership is deemed essential to guide digital transformation in a way that truly benefits society.

3.2 Driving Digital Transformation

The African Union (AU) has formulated a comprehensive Digital Transformation Strategy for Africa (2020–2030), which frames digitalisation as a driver of "a digitally transformed continent for prosperity and inclusivity". The African Union Commission (AUC) (2020) strategy identifies foundational pillars and critical sectors that must be developed in tandem. Notably, the AUC strategy embeds cross-cutting themes including digital ID, cybersecurity and data protection, and emerging technologies, while adhering to principles of solidarity, inclusivity, and Africa-centric development. This highlights that digital transformation in developing regions is pursued not as tech adoption for its own sake, but as a means to achieve public value creation, economic opportunity, and sustainable development aligned with local needs and values.

Despite broad consensus on the benefits of digital transformation, significant challenges persist, especially in the Global South. Many organisations struggle to move from piecemeal technology implementations to holistic transformation. Kludacz-Alessandri et al. (2025) observe that in sectors like healthcare, numerous digital initiatives fail because organisations *"merely implement technology rather than embrace a broader and more profound transformation"* involving reengineered processes, upskilled personnel, cultural shifts, and agility. Resource constraints, legacy systems, and fragmented governance structures can impede progress, problems that are acute in many African contexts where Information and Communication Technology (ICT) infrastructure and institutional capacity may be limited. Hariyani et al. (2025) identify *legacy systems, skills gaps, and fragmented governance* as persistent barriers that leaders must tackle to achieve sustainable digital transformation. Overcoming these hurdles requires not just technical fixes but also strong leadership and change management, as discussed in the next section.

In summary, digital transformation holds great promise for advancing sustainable development, globally, and in Africa by driving innovation in key sectors, improving efficiency and transparency, and enabling solutions to social-environmental challenges. However, capturing this promise hinges on effective leadership and strategy to guide the transformation. Leadership is the linchpin that connects technology deployment with organisational change and sustainable impact (Suljic, 2025).

4. The Role of Leadership in Digital Transformation

Leadership has always been central to organisational change, but in the context of digital transformation its importance is amplified. Digital transformation is not purely a technology project; it is fundamentally an organisational transformation, requiring leaders who can articulate vision, motivate people through change, and align diverse stakeholders towards new ways of working. Indeed, research suggests that effective transformational leadership is the foundation of successful digital transformation in organisations (Kludacz-Alessandri et al., 2025).

In digital initiatives, transformational leaders drive change by creating a compelling digital vision, empowering employees to innovate, and fostering a culture receptive to continuous improvement. Kludacz-Alessandri et al. (2025) note that transformational leaders are proactive and supportive; they *"enhance shared benefits and support employees in achieving their goals"*, while also encouraging the team to embrace change and consider broader organisational interests beyond immediate tasks. Such leaders help build organisational agility, enabling faster adaptation in the face of technological disruption.

4.1 The Emergence of DTL

Modern conceptions of leadership for the digital age have evolved beyond traditional styles. The term "digital transformational leadership (DTL)" has emerged to describe leadership that specifically blends transformational style with digital savviness. DTL implies that a leader not only exhibits the vision and motivational skills of a transformational leader, but also understands the strategic potential of digital technologies, and champions their integration into the business model. These leaders nurture innovation by encouraging experimentation and learning from failure, and they emphasise cross-functional collaboration to break down silos that hinder digital change (Suljic, 2025).

Research indicates that organisations with leaders who possess a strong *"digital mindset"*, characterised by openness to new technologies, data-driven decision-making, and a willingness to disrupt legacy practices, have greater innovation capacity, which in turn is *"the foundation for digital transformation"* (Kludacz-Alessandri et al., 2025). Conversely, a common reason why digital transformations stall is when leadership fails to move beyond a narrow IT implementation focus to address the human and organisational dimensions of change. In many failing cases, top management may delegate digital projects to technical teams without fully embedding the transformation into the organisational strategy, culture, and structure. This can lead to superficial changes that do not last. Thus, visible and committed executive leadership is often cited as the single most important success factor for enterprise-wide digital transformation (Suljic, 2025).

Recent literature highlights several leadership styles and traits that are particularly effective for steering sustainable digital transformation. In a systematic review of 224 articles on leadership and digital transformation, Hariyani et al. (2025) conclude that transformational, adaptive, and ethical leadership styles are the most instrumental in driving sustainable DT outcomes. Adaptive leadership involves a leader's ability to mobilise people to tackle tough challenges and thrive in new situations. In a digital context, adaptive leaders encourage flexibility, continuous learning, and decentralised decision-making so that their organisations can respond quickly to technological changes and unexpected disruptions.

This was vividly demonstrated during the COVID-19 pandemic, where organisations with agile, adaptive leadership managed to pivot to digital channels and remote work more effectively. Adaptive leaders also recognise when established processes or business models must be relinquished ("learning to unlearn") in order to embrace innovative approaches, a trait essential in the fast-evolving tech landscape (Kludacz-Alessandri et al., 2025).

4.2 The Role of Ethical Leadership

Ethical leadership in the digital era, on the other hand, emphasises integrity, transparency, and responsibility in how technology is used (Brown, 2025). Ethical leaders ensure that digital transformation efforts align with core values, and consider societal implications, such as data privacy, cybersecurity, and equity in technology access. This style is increasingly crucial as issues like algorithmic bias, surveillance concerns, and digital inclusion have come to the forefront. Leaders who prioritise ethics will, for example, champion AI governance frameworks to mitigate biases and protect user data, thereby building stakeholder trust in digital systems (Suljic, 2025). In sum, transformational leadership provides vision and motivation, adaptive leadership provides agility and learning, and ethical leadership provides a moral compass. Together, these approaches create a leadership profile well-suited to guiding digital transformation towards positive and sustainable outcomes (Hariyani et al., 2025).

One key function of leaders in digital transformation is to shape organisational culture and mindset. Digital transformation often necessitates a shift from hierarchical, siloed cultures to more open, collaborative, and innovation-friendly cultures. Traditional command-and-control leadership is generally ill-equipped for the digital age where creativity and rapid adaptation are needed. Instead, leaders must foster a culture of empowerment, where employees at all levels feel confident proposing new ideas, and are enabled to make decisions in real time. This can be achieved through practices such as agile cross-functional teams, hackathons or innovation challenges, and recognition/reward systems that value experimentation.

Leaders also play a symbolic role: by continuously communicating the digital vision and demonstrating their own commitment, they signal to the organisation that "digital" and "innovation" are core to the mission. Hariyani et al. (2025) found that successful digital leaders "shape an organisational culture and articulate a sustainability-aligned digital vision", thereby aligning the workforce around common transformative goals. Importantly, they also "foster stakeholder engagement", meaning they actively involve employees, customers, and partners in the transformation process to build buy-in and reduce resistance. Change management – guiding people through the anxiety and uncertainty of change – is therefore a critical leadership responsibility in these initiatives.

4.3 Strategic Alignment and Execution in Leadership

Another essential leadership role in digital transformation is strategic alignment and execution. Leaders must ensure that digital projects are not ad-hoc or isolated, but rather tied to the overall organisational strategy and resources. In their review, Hariyani et al. (2025) identify six integrated mechanisms through which leadership influences sustainable DT outcomes:

- *Strategic alignment:* aligning digital initiatives with long-term strategy and sustainability goals

- *Change management:* managing the transition process and stakeholder buy-in
- *Talent empowerment:* upskilling and enabling employees to leverage digital tools
- *Ecosystem collaboration:* partnering across organisational boundaries for innovation
- *Regulatory adaptation:* navigating and influencing policies/regulations that affect digital initiatives
- *Stakeholder value creation:* ensuring that transformation delivers value to customers, citizens, and other stakeholders.

These mechanisms provide a useful checklist for leaders steering digital transformation. For example, under strategic alignment, leaders should ask: Does this digital initiative support our mission and contribute to our sustainability targets (such as specific SDGs)? Under talent empowerment: Are we investing in training and recruiting the right skills (data scientists, cybersecurity experts, etc.) and creating a work environment conducive to innovation? Under ecosystem collaboration: Are we engaging startups, universities, or other partners to co-create digital solutions, and are we open to ideas from outside our organisation?

Each mechanism underscores that leadership in digital transformation is a multi-faceted endeavour; it's about people, strategy, external relationships, and adapting the institutional context, not just about implementing new tech.

4.4 Pivotal Tasks: Communication and Stakeholder Management

Finally, communication and stakeholder management are pivotal leadership tasks. Because digital transformation can be disruptive, affecting jobs and established routines, leaders must communicate effectively about the why, what, and how of transformation to reduce uncertainty. This involves sharing a clear vision of the benefits, being honest about challenges, and continuously listening to feedback. Leaders who actively involve employees in decision-making often encounter less resistance and glean valuable insights from frontline perspectives.

Moreover, external stakeholders, such as customers, investors, and regulators, also need to be managed. For instance, a government leader implementing an e-governance project must ensure that citizens trust the new digital services; this might involve public education campaigns and demonstrating quick wins. In the private sector, leaders might manage investor expectations by articulating how digital investments will drive long-term sustainable growth. As we will explore in the African context, leaders in the public sphere often need to balance the interests of multiple stakeholders to drive digital initiatives that serve the public good.

In summary, effective leadership for digital transformation is characterised by vision, adaptability, ethical integrity, and a strong focus on people. Such leaders function as change agents who align technology with strategy and culture, thereby converting digital initiatives into meaningful, sustainable innovations. The next section will expand on a specific aspect of leadership critical in the digital age: strategic foresight, and the ability to navigate complexity and uncertainty.

5. Strategic Foresight and Planning in the Digital Era

Leading digital transformation requires not only motivating and managing today's change, but also anticipating tomorrow's challenges and opportunities. The digital era is marked by rapid technological evolution and market disruption, considering how quickly artificial intelligence or fintech innovations can upend existing business models. In this context, strategic foresight has become a cornerstone of effective leadership (Suljic, 2025). Strategic foresight refers to the capability of envisioning and preparing for multiple future scenarios, rather than being caught off-guard by change. Leaders who use foresight engage in practices like trend analysis, scenario planning, and horizon scanning to inform their long-term strategies. Moreover, according to Suljic (2025), leaders with strategic foresight *"possess the ability to anticipate technological disruptions, proactively align organisational strategies, and invest in future-ready technologies"*. These forward-thinking leaders do not wait for disruption to force a reaction; instead, they proactively initiate transformations to seize emerging opportunities or to build resilience against looming threats.

Studies indicate that organisations led by futurist, foresight-driven leaders tend to outperform others in navigating digital upheavals. McKinsey & Company (2023) research finds that *"forward-thinking leaders who embrace strategic foresight are better positioned to navigate industry disruptions, seize emerging opportunities, and mitigate risks"*. A concrete example is provided in financial services. J. P. Morgan's early investment in AI-driven fraud detection, anticipating the growing sophistication of cyber-fraud, resulted in a 25% reduction in fraudulent activity (Suljic, 2025). This proactive move, guided by foresight, not only saved costs but also strengthened customer trust, reinforcing the bank's market position and operational resilience.

The implication is that strategic foresight translates into actionable and impactful results by allowing organisations to implement innovations ahead of the curve, thus gaining competitive advantage or better fulfilling their mission. Leaders can cultivate foresight through techniques such as developing future scenarios (e.g. envisioning different trajectories of technology adoption, regulatory environments, or consumer behaviour), and then stress-testing their strategies against these scenarios. Many corporations and governments now engage in scenario planning exercises for digital disruption. For instance, a telecom company might explore scenarios of widespread 5G adoption, or a government might plan for future scenarios of increased climate-related crises where digital infrastructure robustness becomes critical. By imagining various futures, leaders can make more robust decisions in the present.

5.1 The Role of Risk Management

Another area where strategic planning is vital is risk management in digital transformation. Digital initiatives carry significant risks, from cybersecurity threats to implementation failures. Effective leaders take a strategic view of risk, treating cybersecurity and data privacy not as technical issues alone, but as board-level strategic priorities. As Suljic (2024) points out, *"Effective leaders understand that cybersecurity is not merely a technical issue relegated to IT departments, but a strategic priority that safeguards organisational assets and trust"*. For example, cyberattacks can cripple operations and erode public trust in digital services, hence foresightful leaders invest early in robust cybersecurity frameworks. Accenture (2024) reported that organisations with strong cybersecurity measures are 50% less likely to

experience major operational disruptions due to cyber incidents. Leaders must therefore foster a culture of vigilance and allocate resources to preventive technologies like AI-driven threat detection.

5.2 Strategic Foresight

Strategic foresight also intersects with strategic agility, the capacity to pivot strategy quickly when conditions change. This is linked to the concept of organisational agility, which is often mediated by leadership. Kludacz-Alessandri et al. (2025) found that digital transformational leadership positively influences organisational agility, which in turn improves digital transformation outcomes. Leaders with foresight prepare their organisations to be agile by promoting flexible structures, and fostering a mindset that embraces change rather than fearing it. A practical tool here is continuous strategic planning. Rather than treating strategy as a fixed five-year plan, agile organisations frequently revisit and adjust their strategies. Many tech firms, for example, use quarterly strategic Objectives and Key Results that can be revised as new data or trends emerge. This does not mean abandoning long-term vision, but rather maintaining a dynamic approach to achieving it.

In the public sector, strategic foresight is equally critical, especially given the complex, "wicked" problems governments face (climate change, public health crises, etc.) where digital tools can be part of the solution. Government leaders are increasingly establishing foresight units or labs to explore how emerging technologies like AI, blockchain, or IoT could transform public service delivery in the coming decades. The ability to plan for a changing world enables policymakers to craft regulations that encourage innovation while safeguarding society. A World Economic Forum (WEF) report (2023) notes that governments using strategic foresight are better able to create adaptive policies that keep pace with technological change. For instance, some countries convene multi-stakeholder dialogues on the future of work in the age of AI, thereby proactively updating education and labour policies rather than reacting post-factum to automation job losses.

In Africa, strategic foresight is arguably even more crucial due to the dual nature of the environment, high uncertainty but also the potential for leapfrogging. African leaders, whether in business or government, must plan for scenarios that consider infrastructure development, demographic shifts (Africa's youth boom), and external economic trends. The AU's Agenda 2063 and Digital Transformation Strategy are themselves exercises in foresight, laying out long-term visions and pathways. However, executing those visions will depend on translating foresight into policy and investment decisions today. A case in point is Kenya's digital leadership in the past decade, which involved foresight by policymakers and entrepreneurs in cultivating a fintech ecosystem, e.g. mobile money with M-Pesa, when few others anticipated how big mobile banking could become (Thigo, 2025). That foresight has turned Kenya into a global reference for financial inclusion via digital tech. Similarly, Rwanda's government has positioned the country as a hub for drone delivery and AI for healthcare by strategically investing early in those areas, looking ahead to how they can address local needs and create economic opportunities.

In sum, strategic foresight and planning enable leaders to guide digital transformation proactively instead of reactively, making their organisations more resilient and innovative. By anticipating change, shaping the future through visionary investments, and preparing for risks, leaders can ensure their digital transformation efforts are sustainable and aligned with long-term goals.

6. Aligning Digital Transformation with Sustainability and Ethics

Digital transformation and sustainable development should be two sides of the same coin, especially in regions like Africa where social and environmental challenges are pressing. Responsible leadership in digital transformation means steering technological change in ways that advance equity, inclusion, and environmental stewardship, rather than exacerbating existing divides or creating new harms. This requires leaders to infuse ethical governance and sustainability principles into their digital strategies from the outset (Suljic, 2025).

One major aspect is ensuring that digital transformation initiatives contribute to environmental sustainability. Many digital technologies, if applied thoughtfully, can help reduce resource consumption and pollution. For example, IoT sensors and data analytics can optimise energy usage in smart grids and buildings; AI can improve supply chain efficiency, reducing waste; and digital platforms can enable the sharing economy, potentially lowering carbon footprints. Deloitte's Global Sustainability and Digital Transformation Report (2024) highlighted the *"potential of AI and other digital technologies to reduce environmental impact, optimise resource efficiency, and create long-term value".*

A cited example is Siemens' use of AI in manufacturing, which achieved significant reductions in energy consumption while maintaining high operational performance. Such cases exemplify how aligning digital innovation with environmental goals can yield win-win outcomes. Leaders should actively seek these synergies, asking how each digital project might also advance climate goals or environmental responsibility. Moreover, they must be vigilant about the environmental *downsides* of digitalisation where data centres consume large amounts of electricity, electronic waste from rapid device turnover, etc. This means incorporating green IT practices into the digital transformation roadmap.

6.1 Social Inclusion and Equity

Another critical facet is social inclusion and equity. Without deliberate effort, digital transformation can deepen inequalities, for instance, automation could displace workers, online services might exclude those lacking internet access, and algorithms could perpetuate bias. Inclusive leadership aims to ensure that the benefits of digital transformation are broadly shared and that no groups are left behind. One urgent challenge is the digital divide, including the gender digital divide. In Sub-Saharan Africa and other regions, women have significantly lower access to the internet and digital tools compared to men due to factors like cost, social norms, and education gaps. Recent data show that women account for only *32% of internet users in Africa versus 42% for men*, despite making up half the population. This gap has serious implications: if half the population is under-connected, digital transformation will be neither fully realised nor socially just.

Leaders in both government and business must prioritise closing these gaps, through initiatives such as expanding affordable connectivity to rural and low-income areas, promoting digital literacy for women and marginalised groups, and designing digital services with accessibility in mind. For example, mobile network operators in Africa, supported by organisations like GSMA (Global System for Mobile Communications Association) and governments, are implementing programmes to provide low-cost smartphones and data plans to women, coupled with digital skills training. Inclusive digital leadership also

means increasing diversity in the teams that design and implement technology, to avoid blind spots that can exclude certain user groups. Efforts to encourage women in STEM (Science, technology, engineering, and mathematics) fields and leadership roles in tech are part of this equation, as a more diverse leadership will likely be more attuned to the needs of diverse stakeholders.

6.2 Understanding Ethical Leadership

Ethical leadership comes into play strongly when considering issues of data privacy, security, and overall digital rights. Leaders face tough ethical dilemmas, such as how to use big data and AI to drive innovation while respecting individual privacy? How to balance security and surveillance concerns? An ethical leader will establish clear values and guidelines, for instance, adopting privacy-by-design principles in new digital services, being transparent about data usage, and seeking community consent and input when rolling out smart city or digital ID programs. Notably, the African Union's (2020) digital strategy emphasises the importance of trust, calling for robust cybersecurity, privacy, and personal data protection frameworks as foundational to Africa's digital transformation. This reflects an understanding that people will embrace digital services only if they trust them. Ethical digital leadership thus involves advocacy for strong data protection laws and ethical AI standards. For example, if a government is digitalising public services, leaders should ensure compliance with data protection regulations, perform algorithmic impact assessments, and possibly set up ethics advisory boards.

Furthermore, leadership must consider public value and governance in digital initiatives. In the public sector, digital transformation should translate into better services and enhanced public value, such as improved access, efficiency, transparency, and citizen satisfaction. Government leaders in Africa have framed digital government projects around the idea of *service delivery improvement* and public trust. South Africa's President Cyril Ramaphosa, for instance, has championed e-government and digital reforms as central to strengthening the state and improving service delivery. In a 2025 governmental roadmap, the South African government explicitly acknowledges *"the leadership of President Ramaphosa, whose call to strengthen the state and improve service delivery has placed digital transformation at the core of South Africa's reform agenda"*. The resulting strategies aim to modernise how citizens access social grants, IDs, education, etc., via digital platforms (Republic of South Africa, 2025), illustrating top-level commitment to public-value-driven digital transformation. Leaders measure success not just by technical implementation, but by outcomes like reduced queues at government offices, quicker response times, and the inclusion of previously underserved communities in public services.

6.3 Stakeholder Capitalism Principles

In corporate settings, stakeholder capitalism principles are prompting business leaders to view digital transformation through a sustainability lens as well. Many companies now voluntarily report on how their digital innovations contribute to ESG goals. For instance, a bank launching a fintech app might highlight how it increases financial inclusion for unbanked populations (a social benefit), or a logistics company using optimisation algorithms might report on emissions reduced (an environmental benefit). This trend reflects that investors, consumers, and employees increasingly expect digital progress to align with societal progress. Therefore, purpose-driven leadership is gaining prominence, where leaders articulate a broader

purpose for digital transformation beyond profit or efficiency, such as using tech to solve societal challenges and create shared value.

6.4 Embracing Indigenous Knowledge

Finally, a distinctive dimension in Africa, and other parts of the Global South, is the integration of indigenous knowledge and values into the leadership approach. African leadership philosophies such as *Ubuntu*, which emphasises community, mutual care, and shared humanity, can guide a more human-centric digital transformation. Indigenous leadership models often stress *community consensus, local wisdom, and collaborative decision-making*, as noted by Moyo (2022), promoting a collective approach rather than top-down directives. When applying such models to digital initiatives, it might involve extensive community consultation for projects, e.g. involving local elders in planning rural connectivity programmes, or understanding traditional practices to tailor digital tools for agriculture. This culturally grounded leadership can enhance adoption and relevance of digital solutions. It also resonates with the idea of inclusive co-creation, building technology *with* the people, not just *for* them.

For example, designing e-health services in a rural African context might benefit from indigenous health knowledge and the trust that community leaders hold. Embracing these indigenous leadership wisdoms can ensure that Africa's digital transformation is not a copy-paste of Western models, but rather a homegrown evolution that fits local context and values. In practice, this might mean leadership training in Africa incorporates modules on indigenous knowledge systems and ethics, alongside digital skills. Indeed, the call for papers that inspired this study explicitly listed *"indigenous knowledge systems and leadership wisdom"* as a theme of interest, underlining the academic recognition that combining traditional wisdom with modern leadership is vital for authentic, effective leadership in Africa's development.

6.5 Summary

To summarise, aligning digital transformation with sustainability and ethics is about broadening the leadership perspective from a narrow focus on technology deployment to a holistic focus on societal impact. Leaders must ask not only "*Can we implement this technology?*" but also "*Should we?*", "*For whose benefit?*", and "*How can we maximise positive impact and minimise harm?*". By doing so, they ensure that digital transformation contributes to sustainable development in the true sense, where it benefits people, planet, and prosperity together.

7. African Context: Opportunities and Challenges for Digital Leadership

Africa presents a unique context for studying leadership in digital transformation. On one hand, the continent faces significant challenges, including infrastructure deficits, skills shortages in the tech domain, and institutional weaknesses. On the other hand, Africa has tremendous opportunities to leverage digital transformation for leapfrogging development stages, given its young population, growing tech entrepreneurship, and increasing political commitment to the digital agenda. Leadership will be the deciding factor in how these challenges and opportunities are navigated.

7.1 The Digital Transformation Landscape in Africa

The African digital landscape is rapidly evolving. Internet and mobile penetration have risen steadily over the past decade, largely due to mobile technology. As of the mid-2020s, roughly 40% of Africans use the internet (Ecofin Agency, 2024). Mobile connectivity is the primary mode, over 600 million mobile subscribers were recorded, and data suggests about 50% of the population has a mobile phone, though smartphone adoption is lower. Projections are optimistic, as the African internet economy has been deemed *"one of the largest investment opportunities of the past decade"*, and despite recent global setbacks, it is on track to keep expanding (Boa-Guehe, 2023). A study by the IFC and Google estimated an internet economy potential of $180 billion by 2025 in Africa, rising to $712 billion by 2050, given the right enabling environment. Moreover, the demographics are in Africa's favour, a median age of around 19.7 years, and a growing urban middle class mean a huge emerging market for digital services and a workforce that is quick to adopt new technologies. The widespread success of mobile money (e.g. M-Pesa in Kenya), the rapid growth of tech hubs and startups in cities like Lagos, Nairobi, Cape Town, and Cairo, and innovations in e-commerce, Agri-tech, and e-health all signal a continent "leapfrogging" in certain areas of digital application.

However, these advances are uneven and many Africans remain offline or underserved. There is a stark urban-rural divide in connectivity. Data shows that in sub-Saharan Africa, only 22% of the population used mobile internet actively in 2021, compared to a global average of over 60% (Hatte et al, 2025). Barriers include high costs, low digital literacy, and, in some cases, regulatory and market bottlenecks limiting competition. Leadership initiatives are addressing some of these barriers, where several countries have implemented universal service funds to expand rural connectivity

African governments have increasingly put digital transformation at the top of national agendas. Nearly all countries have some form of Information and Communication Technology (ICT) or digital economy strategy. For example, Ghana has an ambitious digitisation programme under its Vice President, focusing on digital identity and digital payments to improve government services. Nigeria launched a National Digital Economy Policy (2020–2030) aimed at diversifying its economy through ICT. Rwanda's Vision 2020 (and now Vision 2050) integrated ICT as a pillar of development, making Kigali a showcase for e-government and tech-driven public services. South Africa established a Presidential Commission on the Fourth Industrial Revolution (4IR) in 2019 to craft strategies for adapting to emerging technologies (AI, robotics, etc.), and, as noted, President Ramaphosa's administration has developed a detailed "Roadmap for Digital Transformation of Government" in 2025. These initiatives often involve setting up new institutions, investing in infrastructure, updating regulations, and building digital skills. The presence of such plans is encouraging, but execution varies widely, and this is where effective leadership is truly tested.

7.2 Leadership Challenges in African Digital Transformation

Despite high-level commitment, African leaders (in both public and private sectors) face headwinds in executing digital transformations. Some of the key challenges include:

- *Infrastructure and Funding Constraints:* Unlike more developed regions, African leaders must often first build basic infrastructure as a precondition for digital projects. Financing these at scale

is difficult, requiring creative leadership to form public-private partnerships or attract foreign investment.

- *Skills and Talent Gap:* There is a shortage of skilled ICT professionals in many African countries, including software engineers, data scientists, cybersecurity experts, and even tech-savvy managers in traditional industries. Leaders in government struggle to compete with private sector or overseas opportunities to retain talent.
- *Governance and Coordination Issues:* Digital transformation often cuts across traditional bureaucratic silos, for example, implementing a digital ID system involves interior ministries, ICT ministries, finance (for payments), etc. In some African governments, coordination between ministries or between national and local government is weak. Another governance challenge is continuity, where changes in political leadership can disrupt digital programmes.
- *Cultural and Change Resistance:* As in any organisation, introducing new digital processes in governments or companies can meet resistance, especially if people fear job loss or feel untrained for new tools. African public sectors often have entrenched ways of working; digitising those, say moving from paper to e-filing in public services, requires sensitive change management. Leaders must clearly communicate benefits, provide training, and sometimes provide incentives for adoption.
- *Socio-political Factors:* Leadership in Africa must contend with broad socio-political factors such as conflict and instability in certain regions, which can disrupt digital development, and varying degrees of political will or understanding of tech among elites. In some cases, leaders might even see digital media as a threat, leading to internet shutdowns or restrictive laws that ironically hurt digital progress.

8. Conceptual Framework and Synthesis

Bringing together the insights from the preceding sections, I propose a conceptual framework that illustrates the relationships between leadership, strategic foresight, digital transformation processes, and sustainable development outcomes (see Figure 1 below).

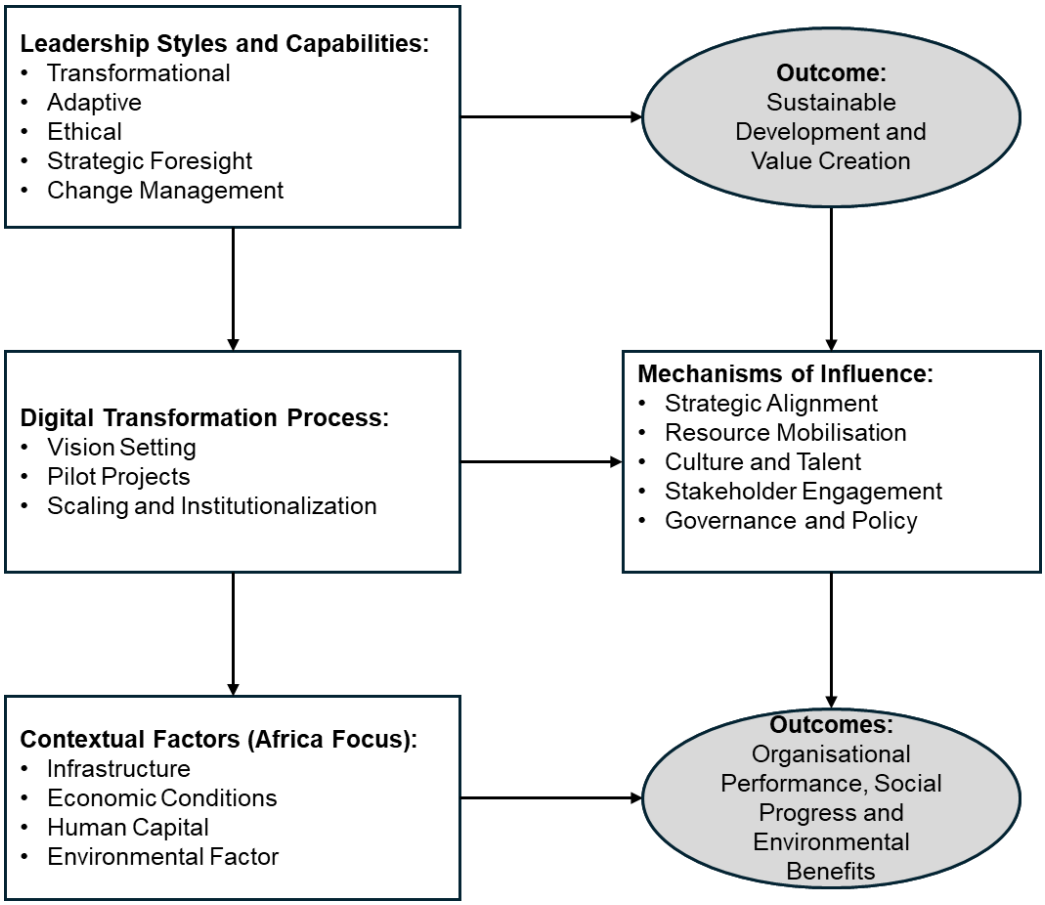

Figure 1: Leadership-Driven Digital Transformation Framework

The above conceptual framework can be summarised as follows:

a) *Leadership Styles and Capabilities:* At the core are the leadership approaches identified as crucial, these being Transformational, Adaptive, and Ethical leadership. These approaches are underpinned by Strategic Foresight and Change Management skills, and further influence how digital transformation initiatives are conceived and executed.

b) *Mechanisms of Influence:* Leadership drives digital transformation success through several mechanisms, as adapted from Hariyani et al. (2025). These mechanisms are:

- Strategic Alignment: leaders align digital projects with the organisation's strategy and sustainability goals
- Resource Mobilisation: leaders secure and allocate resources effectively.
- Culture and Talent: leaders cultivate an innovation-friendly culture and empower talent via training and incentives.
- Stakeholder Engagement: leaders engage stakeholders to build support and feedback loops.
- Governance and Policy: leaders shape or respond to governance structures and policies that enable transformation.

c) *Digital Transformation Process:* Under strong leadership, the digital transformation process moves through stages, from Vision Setting, to Pilot Projects, to Scaling and Institutionalisation of new digital solutions. Effective leaders iterate through these stages with strategic foresight. Without effective leadership, this process can stall, e.g. a pilot fails and is abandoned rather than learned from.

d) *Contextual Factors:* The framework situates these processes within the context that includes Infrastructure levels, Economic Conditions, Human Capital, and Environmental Factors. In Africa, contextual factors such as limited connectivity lowers digital literacy. The framework suggests that leadership in Africa must be adept at *managing constraints* (finding innovative solutions to infrastructure) and *harnessing unique strengths* (indigenous knowledge).

e) *Outcomes, Sustainable Development and Value Creation:* the framework shows that the end-goal of this aligned leadership and transformation process is the creation of tangible value along multiple dimensions such as improved organisational performance, progress on social goals, and environmental benefits.

The framework implies a feedback loop, too, where positive outcomes can reinforce and legitimise leadership and strategies, and negative outcomes or failures test leadership resilience and learning. In simpler terms, the framework underscores that *leadership and strategy are the "X-factor" that turn digital technology potential into real sustainable impact*. Technology itself is not a silver bullet, as it requires human judgement, guided by ethics and vision. This conceptual model aligns with broader theories of socio-technical change that emphasise leadership agency in complex systems. It also resonates with African development theories that call for *"homegrown leadership solutions"*, recognising that while knowledge can be global, its application must be locally led and context aware.

9. Conclusion and Recommendations

Digital transformation stands at the intersection of technology, organisation, and society. As this paper has explored, effective leadership is the critical enabler that allows digital transformation to fulfil its promise of driving sustainable development rather than becoming just a buzzword or, worse, deepening divides. We reviewed how transformational, adaptive, and ethical leadership approaches, augmented by strategic foresight and sound change management, can significantly improve the success rate of digital transformation initiatives. Leaders set the vision, align stakeholders, and create the conditions for innovation; without their active guidance, even the most advanced technologies can fail to take root or deliver value.

For academic audiences, the conceptual analysis highlights the need for multidisciplinary research on digital transformation in the African context. It is not solely a technical or managerial issue, but also one of governance, culture, and human capital. Future research could empirically test the framework proposed here, for example, by assessing leadership styles in African digital initiatives and correlating them with project outcomes, or by examining how indigenous leadership principles (like Ubuntu) might mediate the relationship between leadership actions and stakeholder acceptance of digital change. There is also room to study how leadership development programmes can be tailored to produce the kind of digitally savvy and ethical leaders described in this paper. As Africa and the Global South take charge of their digital destinies, scholarly work should continue to document and analyse which leadership models work best in these

contexts, ensuring that theories are not simply imported from the West, but are genuinely reflective of local realities.

10. Implications for Policy and Practice

- Invest in leadership development and capacity as much as in technology when pursuing digital transformation.
- Empower change leaders at all levels to drive and sustain digital initiatives.
- Embed strategic foresight and ethical governance into organisational culture and decision-making.
- Ensure consistent political will and long-term commitment in government-led digital transformations, beyond short political cycles.

In conclusion, digital transformation in Africa, and globally, is not an end in itself, but a means to achieve impactful outcomes: inclusive economic growth, improved services, empowerment of citizens, and environmental sustainability. Achieving these outcomes requires what this paper has described as "leadership, strategy, and impact" coming together. African countries have put forth bold visions (Agenda 2063, national digital plans); the challenge and opportunity now are to realise them through capable and ethical leadership. As one World Bank statement aptly put it, it will take *"leadership and a vision to push the frontiers of innovation so that Africa can own its 21st century"*. The coming decade will be pivotal. By harnessing strong leadership and strategic foresight, Africa's digital transformation can indeed become a powerful engine for sustainable development, benefiting not only the continent, but also providing lessons and innovations for the rest of the world.

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