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Digital Transformation in Emerging Economies: A Risk Management Perspective

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Abstract

The major driver of the waves of change in the business environment is technology, which has created significant gaps among companies, countries and regions. The major challenge faced by the organisation both private and state owned is the ease with which they adopt digitalisation to sail through waves of change. The risk associated with digital transformation is double aged sword because it brings both good and adverse effects upon an organisation. The concept of governance and risk compliance (GRC) has been born in recent years, and its intensity is determined by the technology levels of absorption. When an organisation adopts technology, the intention is to meet the objectives (governance) but this in turn brings and exposes the organisation to losses (risks) which in turn triggers many rules from regulators (compliance). Many organisations, therefore, are failing to balance this principled performance due to a high corporate governance risk. Some case studies show that a fine-tuned blending of digitalisation brings in huge returns within a short time, while other organisations have been kept aligned for years and reacting to market digital changes for survival. In many developed countries, governance risk is so high that a slight let off in the use of technology would lead to major losses, and hence there is a constant holding to the thread of innovation daily. Countries and governments in developing countries on the other hand are laggers and have kept on following behind the technological trails of those from the western world.

Keywords: *Digital transformation, emerging economies, risk management.*

Introduction

The economic significance of technology is crucial, as it has been shown to be the barrier that separates mature economies from emerging ones. Service-based businesses, including banks and several other public and private organizations, rely solely on the digitalized environment to support intelligence and eliminate operational bottlenecks (Harrigan et al., 2012; Kwarteng et al., 2021). The need for digital transformation is not just for private companies; government

operations and public institutions also require these platforms, which is why it has lately been a significant area of attention (Rha & Lee, 2022). Technological advancements have had a significant impact on how services are provided, developed, and maintained, as well as how they are delivered. Additionally, technology is radically changing how people collaborate, share information, and create value, which improves corporate team development and management (Li et al., 2023; Wu et al., 2023; Bitner et al. 2010).

Intense rivalry in several domestic and international marketplaces has led to the adoption of digitalization (Lee et al., 2021). Governments in both developed and developing nations are progressively putting policies and programs into place that are targeted at businesses, especially SMEs, to help them embrace and use digitalization (Fu & Shi, 2022; Li et al., 2023). For better productivity and efficient resource management, modern businesses are once again embracing digital orientation (Polyakov & Kovshun, 2021). SME businesses with digitization procedures have been said to be able to thrive in global marketplaces.

Understanding Governance in the Context of Risk and Compliance (GRC)

The concept of governance is so broad, and some have acknowledged that it is a confusing term which is used in many ways in the and can be an empty signifier (de Lancer Julnes & Mendieta, 2025; Wang, Deng & Zhang, 2024; Bressers & Kuks, 2003). While Björk and Johansson (2000) commented that there are almost as many ideas of governance as there are researchers in the field. While Welch (2013) scrutinised the meaning of this term using various dictionaries and observed that governance can refer to at least seven things, some of which include an activity of controlling, a function of governing, a procedure of governing, a circumstance of good order, or authority to govern and many others.

However, in our context, governance is understood from the business perspective that involves the way of managing processes to meet set objectives. The firm may have pressure to meet objectives in a manner that is not legally acceptable, and any decision made along the way brings with it consequences (Risk) and defines the integrity (compliance). Hence, the recent understanding of the term governance cannot be separated from risk and compliance, and the three terms have been made together as a loaded acronym called Governance, Risk Compliance (GRC).

Considering the reality of these terms of governance, when someone says there is bad governance in the organisation what comes first into the minds of many is that the organisation systems are not transparent, or there is corruption and shortcuts are usually perceived, and that goals are not being met because of wrong way of doing things. If you break down this scenario, you can still pick the three concepts making up the GRC. There is objective (governance), integrity (expected correct way of doing things) and consequences (Risk).

We therefore define Governance, Risk Management and Compliance (GRC) as "a capability to reliably achieve objectives [GOVERNANCE], while addressing uncertainty [RISK MANAGEMENT], and act with integrity [COMPLIANCE]." (Official definition of GRC by OCEG GRC). GRC is an epitome of Principled Performance which implies that "You Should Not Achieve by Wrong Means, the ends do not justify the means". Hence this context takes jointly the three

major components of GRC – Objectives (Governance), Uncertainty (Risk) and Integrity (Compliance) which are all the dynamics of Technology and subjects of digital transformation. When digital capabilities change, the governance changes due to changes in risk and demands from regulators who want all to act in integrity. Detect how each of these legs of GRC interact with technology which here we are calling as digital transformation.

a. **Governance:** Set of rules, policies, and processes that ensure corporate activities are aligned to support business goals
   Technology: Define volume, quality, costs, policy access, ICT infrastructure, Audit, capability, synergy to achieve goals.

b. **Risk Management:** Process of identifying, assessing, and controlling Risk (any event that has uncertain effect on the goals).
   Technology: facilitates financial modelling, cybersecurity, automated risk detection (fraud, outliers, irregularities and many more), ICT infrastructure, AI.

c. **Compliance:** adhering to rules, standards and laws set by own company (Internal) and industry/govt agencies (External).
   Technology: Enables due diligence, Cybersecurity (SOC 2®, ISO 27001), AML Software, data privacy (GDPR, HIPAA), and industry requirements (PCI DSS), continuous monitoring and internal monitoring of rules.

Governance is Not New but is a Technologic Revolutionary

It's important to remember that organizations have been governed, and risk and compliance have been managed, for a long time, in this way, GRC is nothing new. As organisations increasingly migrate critical operations to the cloud, they encounter data security, legal compliance, and effective vendor management challenges. Therefore, an organisation should weigh the goals and risks before transforming into heavy digital platforms.

How much Technology to get

Application in the Industry is that choose the right leveraged Level of technology to remain in business and achieve goals (governance) manage the losses (Risk) while sustaining integrity (Compliance). When more technology is used in governance to meet high objectives, this results in high-risk exposures which in turn trigger both internal and external compliance dictates which will need more technology to meet, and the cycle revolves like a whirlwind as shown in the figure below.

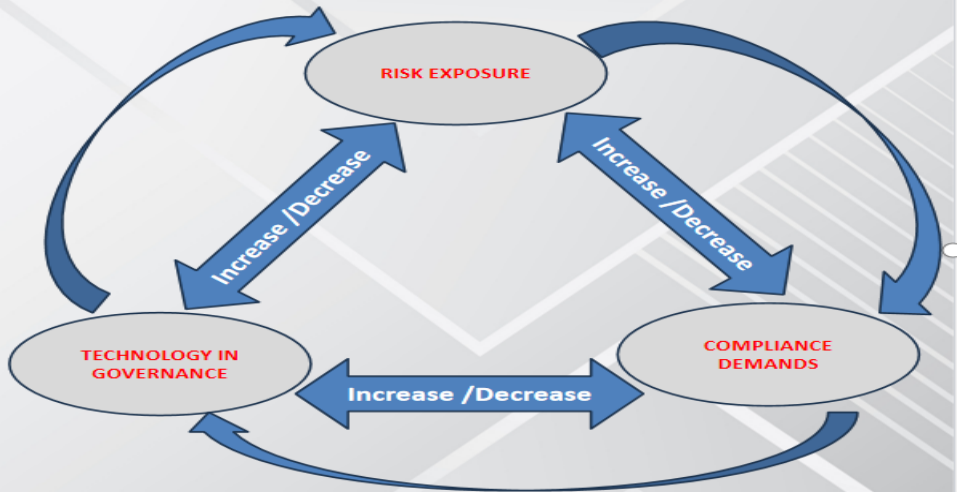


Figure 1: The Digital Transformation Cycle in Governance, Risk and Compliance

We can see that what has been shaping governance is technology over time. When new technology comes in, firms are stirred to undergo digital transformation to a level equal to their appetite. Once such technology is embraced, more implications come in and governance is redefined. Micheal Rasmussen calibrated the stages of GRC history revolution based on changes in technology as summarised in figure 3 below.

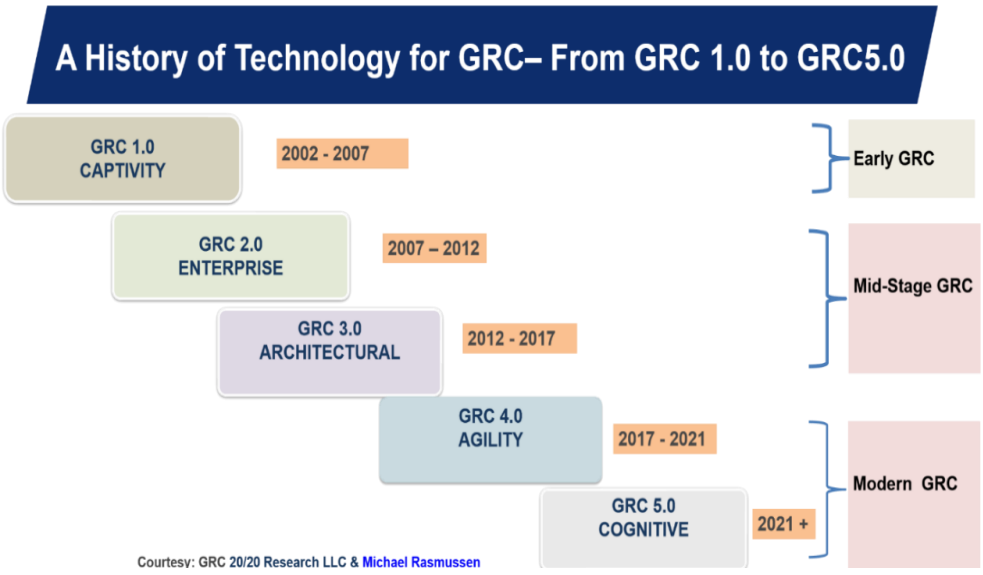


Figure 3: History of GRC - How Digital Transformation Shapes Governance

Each organisation must choose the appropriate stage of technology and digital transformation to fall because of the associated risks involved. The table below expanded from the same Rasmussens presentation includes what is involved in each stage and the associated limitations and how to know where your organisation belongs.

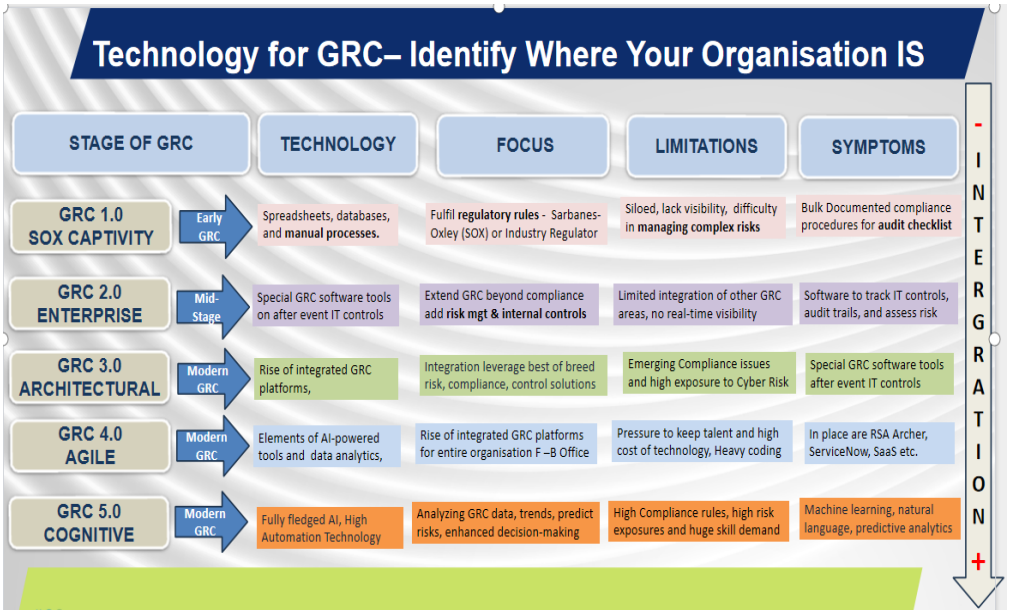
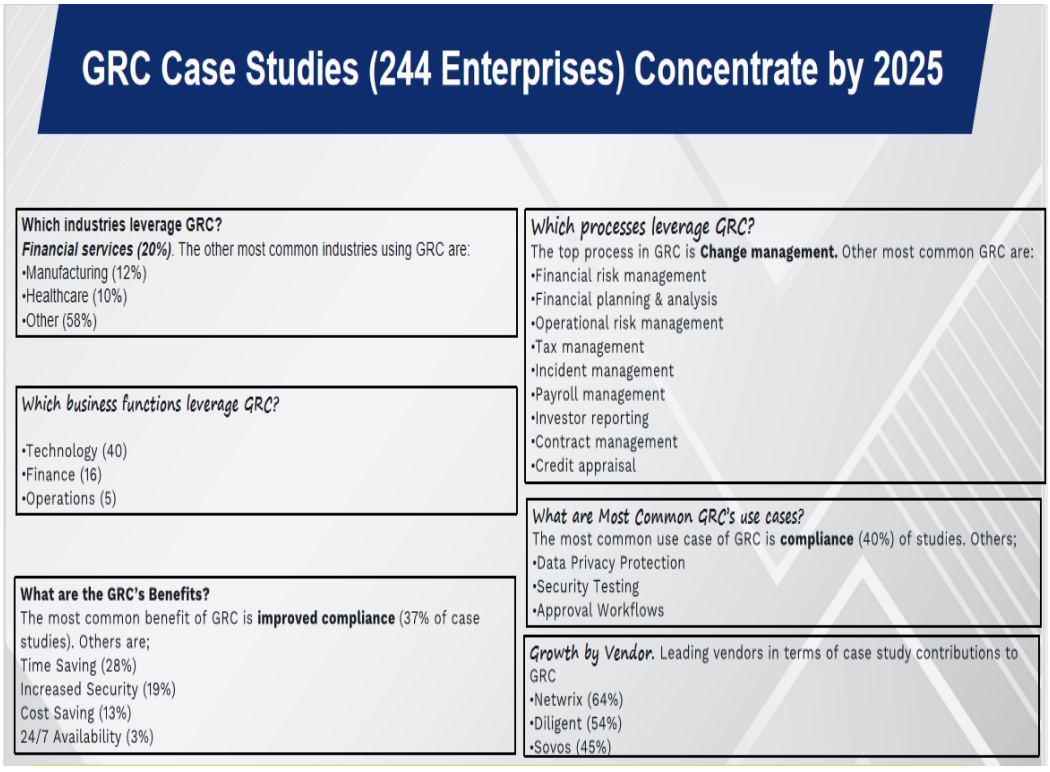


Figure 3: Know what is involved in each technology

Hence it can be seen that as more digital technology is evolving, more options for digital transformation are available. But different industries have responded differently to GRC changes in technology and below is a case study results of which industry and which units within the industry have more technological responsiveness towards the GRC digital based.

Table 1: Where is Governance, Risk and Compliance (GRC) Concentrated?



Survey by AIMultiple 2025.

Role and Benefits of Technology in GRC

Technology enables effective Governance, Risk, and Compliance (GRC) by automating tasks, streamlining processes, providing insights, and facilitating proactive risk management, leading to improved efficiency, enhanced compliance, and data-driven decision-making.

Automation and Efficiency: GRC software automates tasks like risk and control assessments, compliance tracking, reduces manual effort and improve efficiency.

Proactive Risk Management: Technology allows organizations to identify and address risks before they escalate, shifting from a reactive to a proactive approach.

Data-Driven Decision Making: Provide data aggregation, analysis, visualization capabilities, enabling data-driven decision-making for risk mitigation and resource allocation.

Enhanced Compliance: Stay up to date with regulatory changes and compliance with relevant laws and regulations, reducing the risk of penalties and legal consequences.

Improved Communication and Collaboration: Facilitate communication and collaboration among stakeholders, ensure everyone aligns with risk and compliance matters.

Ethical Behavior and Stakeholder Trust: GRC technology enables organizations to demonstrate ethical behavior and compliance, building trust with stakeholders.

Scalability and Integration: GRC solutions designed for scalability and integration with existing technology stacks, allow flexibility/adaptability to changing business needs.

Strategic Alignment: GRC technology helps align risk and compliance with the overall strategy, mission, and objectives of the organization.

Integrate The Key GRC Components: Governance, risk management, and compliance, technology helps integrate these components under a single strategy.

Benefits of GRC Technology: Improved risk management, enhanced compliance, increased efficiency, data-driven decision-making, and enhanced stakeholder trust.

Emerging Issues in GRC Technology

a. **Cloud-based GRC:** Leveraging cloud technology for scalability, accessibility, and cost-effectiveness.

b. **Cybersecurity Integration:** Strengthening GRC frameworks to address growing cyberthreats.

c. **Data Privacy:** Focusing on compliance with data privacy regulations like GDPR.

d. **Proactive Risk Management:** Shifting from reactive to proactive risk management.

e. **GRC as a Business Enabler**: Viewing GRC as a strategic tool to drive business performance.

The Emerging Digital Transformations in Governance Risk Process

To make major operational changes, businesses may eventually need to implement a digital transformation. Executives must make sure they choose the right transformation strategy since several types may work better for a company than others, of course they must put in context several factors such as company goals and their needs, their culture, and their financial situation. A company may be triggered to begin a digital transformation process because of shifting market conditions, competition, and a desire to increase efficiency (Yaqub & Alsabban, 2023; Schwertner, 2017). Leaders should work to ensure a smooth transition because any changes to personnel practices can be challenging to implement. Additionally, to optimize their efficacy, a company may combine several forms of digital transformation. It is important to first highlight the trajectory associated with the vibrancy of digitalisation and the different types. It is from this stream of transformation types where an organisation should choose the type to adopt.

1. ***Digital Transformation involving the Process***

Every organization that engages in production or service delivery uses a process from start to finish. To provide such services and delivery, the procedure is often started manually, which might take some time. As technology is used, the process is converted to digital form and automated. Improving the clarity and efficiency of internal processes is the main objective of a process transformation.

By reconsidering existing tactics, a business undergoing a process transformation seeks to achieve among many others, but the following;

i. lower turn around time,
ii. Lower than the total cost,
iii. Lower the various errors and human mistakes,
iv. Lower the complexity.
v. lower the procedure as well as many unnecessary bottlenecks
vi. Changing from tradition to system software as a service (SaaS),

A successful process of transformation requires an assessment of the business's current software. Although it may be tempting to launch a completely new system during a process change, business executives should take several things into account before doing so. Leaders should first look at change management, implementation schedules, and the change's urgency. Implementing

a new application, for instance, may take more than a year, necessitating the use of temporary fixes to address any possible problems.

One well-known example of process transformation is the food sector, where a client used to attend a physical restaurant and place their order with an employee. Customers can now place their own orders at restaurants using kiosks or use the restaurant app to pre-order their meals. SaaS application feature changes are frequent; thus, a company's present provider may suddenly offer previously unavailable functionality, thereby reducing the need for a new software system deployment. This sort of transition may have an impact on third-party providers and consumers. Accounts payable process revisions, for example, may change the invoice submission process, necessitating change management for both internal and external stakeholders.

Case Study 1: Zambian Government Digital Transformation on Salaries for Civil Servants – 2010

The Government of the Republic of Zambia through the Ministry of Finance holds the responsibility of paying salaries to civil servant as part of its government expenditure. The special system and unit under Ministry of Finance called Personnel Management and Establishment Control (PMEC) system undertakes this role monthly. The PMEC System has been evolving from manual methods of payments to digital form over the years. In old system prior to 2010, the payment system was based on physical schedules with list of names of beneficiaries for each pay point, usually the bank. Each bank would receive this schedule with a corresponding cheque value and posting in the accounts was manual with a lot of errors such as omissions, duplications, misposts and errors of transposition, among many others. With increase in technology, the government evolved from cheque payment system to Electronic Funds Transfer (EFT) on 1st April 2010. As reported in the Public Accounts Committee (PAC) of 2021, this transformation required all employees hired on the system to have their bank details maintained on the payroll where salaries were credited. Where bank details were not defined for an employee on the payroll, the system withheld the net pay for the period relating to the absence of the bank details and the pay slips for the period of the withheld salary would have zero net pay. When bank details were corrected on the payroll, the system released the withheld net pay together with the month's net salary. The Ministry had provided the pay for the affected employees relating to the previous months, where the salaries were withheld. The first EFT payment in bank accounts came in May 2010 GRZ salaries and it was successful. The benefits of this transformation were many and far reaching, the pay day for Civil Servants was changed from end of month to the 21st of the month. The errors were mitigated, and banks were helped to focus on other service improvement areas even during salaries. The automated process is quicker and has no delays up to now for 15 years (at the time of this write up). (PAC, 2021).

Future effect on the banks and other financial institutions in Zambia*: prior to this EFT system many banks and FIs were very much relaxed to adopt modern technology in Zambia and many of their processes were very manual and rigid. With the government's decision to board this technological based payment system, a digital transformation battle and competition was triggered among the financial market players in the industry, many banks procured advanced cire banking software, and more initiatives were modelled to top the market. This made the banking industry to make the use of cheques an irrelevant payment system and the Bank of Zambia announced its intention to permanently get rid of the use of cheque*

payment system in Zambia by December 2025. Banks have now embarked on various digital platforms including the use of loans and other operational services.

ii. Digital Transformation on the Business Model

A firm frequently goes through a business model transformation because its leaders perceive an opportunity to change the way consumers buy or use a product or service, or because market competitors are heading in a certain direction and the company wants to follow suit. A more radical approach to digital transformation than process transformation is a business model change. Peloton is one example of a business model shift. The company initially concentrated on producing exercise machines. However, as technology advanced and competition increased, Peloton turned its attention to the exercise experience, allowing customers in different locales to interact while working out. When implementing a business model transformation, it is crucial to avoid being overly reactive and to think about whether to retrain current staff members or hire workers with new skill sets. When a firm digitizes a product or service that was previously provided in a different way, it is trying to revitalize a portion of its operations.

Digital transformation modelling shapes the future of organisations and can change the type of products and services offered due to changes in customer states and technological conveniences. A company can collapse or thrive through time due to changes in technology. The good example of a state-owned company that has lived years struggling with changes in digital environmental effects is the Zambia Postal Services Corporation (ZAMPOST).

Case Study 2: Digital Transformation Risk and the Existence of (ZAMPOST)

The Zambia Postal Services Corporation (ZAMPOST) was first established in 1896 in Mbala then Abercorn as Post Office Services in Northern Rhodesia now Zambia. Since its establishment, the corporation has been subjected to technological and digital transformation risks that have been placing the relevance of the corporation to the market in danger. The business risk arising from changes in the needs of the market and country's development in technology were significantly affecting the continuous operation of its services. To manage such business shock events, the corporation applied risk management to undergo some form of lateral and horizontal expansion in the nature and scope of the routine services just to survive in the ever-changing digital market. As the Zambian market changed in preliminary technology, keeping funds in boxes at home became unpopular, and to respond to this, the corporation had in 1973 went on to create a subsidiary section which was created to carry out the basic banking services in addition to the traditional mailing services called The National Savings and Credit Unit, which later started to operate autonomously. This business risk management and model enabled the corporation to increase revenues and extended its life span beyond what was perceived.

By 1986, a significant organisation change was made to respond to the needs of the dynamic market. All this time, the corporation was handling the massive transfer of letters and telegrams but in the late 1980s, digital scenes in the name of telephones came in. To respond to this, the corporation was incorporated into a Public Limited liability company and became known as Posts and ***Telecommunications*** *Corporation (PTC). The traditional postal services included the telegram and delivery of postal mail throughout the country. This service was at some point indispensable as all community messages ranging from household funerals and illnesses to corporate and formal link up were conveyed through this system. The famous*

piyobox (P.O. BOX for Post Office Box) was a terminology of any high-profile society dwellers of the time. These services brought value to the community in more areas than imaginable. But external changes and digitalization risk was fast approaching and drastically exposing the corporation to sudden extinction.

The coming of telephones in the country as well as radio stations to link people countrywide, significantly made the corporation struggle for its services, as these were a better substitute for mail and telegram. By early 1990s, mobile phones were now becoming a common gadget for people, and this made the use of letters unpopular as mobile phones were faster and more convenient. These developments suffocated the corporation and before long it started experiencing had liquidity risk and solvency challenges. To manage the situation and claim the market positioning, the corporation undertook a metamorphic strategic risk management through digital business modelling to claim its significance.

In 1994, another change was made to the corporation but this time with support from the parliament office. There was a dissolution of PTC and the Zambia Postal Services Corporation (ZamPost) was created under the Postal Service Act No. 24 of 1994 PTC for the purposes of providing enhanced services to the public (Postal Services Act, 1994). This was in principle like the one identified by Newman (2012) that a successful risk and change management process prepares the institution for course correction and the ability to seek new solutions. But the timing was too late and risk exposure caused by the fast technology suppressed the strategy. The change was not effective due to competition with online communication systems which were becoming popular. This prompted the Act to be revised in 2009 by the Postal Services Act No.22 of 2009 which provides for the extended service offering and existence of the Corporation (Postal services Act, 2009). The Corporation continued with strategic risk management and business diversification just to create value to the community and sustain its life. Some of the notable diversified services in its operations went far away from its traditional role and it found itself into financial services, transport services, clearing and forwarding in addition to its traditional business of postal services which had then declined in revenue. The diversification of the services from the year 2000 included the ZAMPOST Bureau De Change in 2000, Post Bus Limited in 2002, ZAMPOST Micro Finance in 2012 and ZAMPOST Clearing and Forwarding in 2013 (Auditor General Report [AGR], 2013). In 2024, ZAMPOST partnered with Smart Zambia to work on a technology of Starlink to deliver digital transformation in rural areas and currently the state owned is riding on a five-year strategic plan launched in 2024 in collaboration with Institute of Directors of Zambia.

Despite all these steps and organisational changes, ZAMPOST is far from settling either settling or stabilizing in fact for a decade or more, the Corporation has been under the plan to be transferred into private entity. As far back as 15 years, the United Nations Privatization Report noted that the companies being considered for privatization included the ZAMPOST (UN, 2011). As of August 2017, the Auditor General Report of 2016 revealed that the corporations had unsettled funds of $1.63 million which were supposed to be remitted to the road traffic collection account for which it was performing agency service of clearing and forwarding (Auditor General Report [AGR], 2016). The ZAMPOST Microfinance unit was closed and repossessed by the regulator in 2018 and most of the diversified services listed earlier are no longer functional. This is a special case of how changes in digital environment can paralyse a once powerful institution. The ZAMPOST going concern is uncertain but what is certain is that there is only one sure way of resuscitating it, managing the risk of public corporation through digital business model transformation. The corporation has tried and without business model metamorphosis it could have collapsed decades ago.

iii. Digital Domain Transformation

When business executives choose to enter a new market, the organization goes through a domain transformation. Competitors or emerging technologies that make it challenging to stick to an existing company strategy and executives seeking to diversify the organization's holdings are a few possible causes for going through a domain transformation. For instance, if a business has created software to automate procedures and starts selling it to other businesses, generating additional income, the business may experience a domain transformation. One example of domain transition is IBM. Initially manufacturing computers and other hardware, IBM changed its business strategy to concentrate on software applications and consulting services as competition in that field grew. The case study of Yango provides the width of the initial services using digital ability that widened the domain of its traditional services.

Case study 3: Yango Exploiting the Digital Platform for Domain Transformation

Yango started as a taxi-based service provider in Israel by towards the end of 2018 by a team called Yandex Taxi. This service had a single-known domain service commonly known as a ride-hailing service, which again was an expansion from a broader technology company which had a vision to facilitate a multi-service ecosystem. Yango kept on growing and extending in many countries and cities and now boasts of offering services in 17 and exceeding 600 cities across 17 countries. In 2022 Yango entered Zambia with the initial transport app but has used the technology to expand its services beyond ride-hailing to and now offers food and parcel delivery, and even a buy-and-sell e-commerce platform, essentially using digital based super-app. Using a continuous domain expansion, Yango continues to expand its services and presence, focusing on connecting global technologies with local needs and building a comprehensive ecosystem. The most profound technology used by Yango is digital domain width strategy of local adaptation, multiservice approach focusing on specific needs of the local community using super app, the strategic partnership with the already expanded local businesses and has won an appeal due to the youth empowerment schemes that support youths career development and opportunities (Techtrends Zambia, 2025).

iv. Cultural and organizational transformation

A cultural organizational transformation often has a substantial impact on a firm and can be difficult to achieve since it may necessitate considerable personnel change. If a firm has just been bought or its leadership has changed, it may undergo a cultural/organizational shift. Negative events, such as a lawsuit or a poor industry reputation, may also cause a corporation to undertake cultural/organizational change. COVID-19 lockdowns resulted in culture shifts in businesses as staff worked from home. The move has an impact on employees' regular work practices. The Business setup in Zambia has drastically changed and the digital transformation has refined firm operations, meetings and customer interpersonal contacts.

Case Study 4: Digital Transformation in Zambia and social distance in business operations.

In the past 60 years, Zambia has experienced the expansion of telecommunications infrastructure among others, driven by government policies and private sector investment. This has facilitated increased ICT

adoption, internet penetration, and mobile technology integration. This significant stride in technology has transformed many organisations' cultural form across the various sectors, including e-government services, education, healthcare, banking and agriculture, highlighting the potential for leveraging technology to drive economic growth and social development.

Over this period there has been an emergence of AI, IoT, blockchain, and DLT which are being explored as catalysts for future advancements. By adopting these emerging technologies, Zambia businesses have seen their culture change in the manner they handle services, and the social distance created in many processes. can harness the full potential of ICT to achieve sustainable development goals (Zimba, 2025). Let us scrutinise how digital platforms have changed the manner of dealing with the operations through extended social distance.

a. ***Banks:*** *the physical handling of cash and offering services over the counter and interpersonal customer service has changed. Mistrust of ensuring that a physical person is met to transact is no longer the norm. The coming of ATM, then internet and mobile banking is now affording a social distance where all transactions of different values can now be initiated and completed away from the bank building in Zambia. Infact the charges associated with withdraws over the counter are higher than on an ATM or internet-based transactions.*

b. ***Company Meetings:*** *COVID 19 triggered the lockdown which coerced organisations to start using virtual meetings away from physical contact. The first popular platform was Zoom and then other advanced apps such as Teams.*

c. ***Universities and Education Learning Modes:*** *away from brick-and-mortar classrooms, the education system is now being expanded to online mode of learning using google class and other virtual platforms. Learners are not required to meet lecturers but accomplish all at a social distance mode.*

d. ***Religious Gatherings:*** *Many religious groups have fully gone digital and are able to hold meetings away from physical places of worship and can coordinate all programmes virtually.*

e. ***Business orders and online marketing:*** *The management of business is highly virtual in Zambia having Facebook market, WhatsApp and other integrated international platforms. The social distance between the vendor and the buyer is so solid that the market participants now tend to trust the system more than the people involved in selling or buying the products.*

v. Cloud transformation

In the past, businesses handled their own hardware, software, and systems on-site. IT administrators were forced to decide between maintaining control over their own technology and moving to the cloud as massive data centres proliferated and cloud apps became accessible. You have more control over the system with an on-premises solution, but human resources are needed. A business may have tailored its present system to fit organizational requirements, but switching to the cloud is a significant task. The transition from on-premises to cloud computing is shown by SAP. The HR application was previously exclusively available on-site. SAP

purchased SuccessFactors, a cloud-based HR solution, as cloud software grew in popularity (St Jean, 2025).

How Governance and Digital Transformation are Related – Pros and Cons

The digital dimension of management is just as old as computer use (Elyasi, Ghazinoori, & Taghva, 2024). Yet, digital transition must be distinguished from digital transformation. The digital transition refers to the progressive implementation of digital technology to improve current processes. For example, the development of word processing has made it easier to digitize and write texts, while e-mail has sped their circulation. While these advances have been incorporated into company routines, they have significantly transformed how businesses run. Since 2014, there has been an increasing interest in digital transformation.

In contrast, digital transformation entails a significant shift in an organization's operations. In other words, while digital transition focuses on gradually integrating technology to increase operational efficiency, digital transformation is disruptive, requiring a complete overhaul of corporate processes and models. Thus, digital transformation refers to a broad shift within a firm that results in the development of new business models that can boost the organization's competitive edge and economic worth. These digital transformation projects frequently include rearranging procedures, routines, and capacities, as well as modifying the company's business logic (Li, Su, Zhang, & Mao, 2018; Pagani & Pardo, 2017).

Digital transformation and organizational governance at strategy level

First, we consider digital transformation from the perspective of organizational governance and strategy. Gartner revealed that 89% of executives say that digital is integrated by offering similar services while leveraging its network of physical stores. Below is the list of examples that have managed governance using digital transformation at the strategic level as reported by Elyasi, Ghazinoori and Taghva (2024).

a. **Walmart** reported a 33% rise in online sales from 2016 to 2018. By 2022, Walmart had spent $14 billion on innovative technologies. The firm runs its own stores and galleries, which are typically placed in high-traffic places like shopping malls. These venues are largely intended to enlighten consumers rather than to sell automobiles on the spot. The way Walmart works is like the way Shoprite stores operate in Zambia. The busy people will use digital platforms to get the transactions done using upgraded payment systems and

b. **Nike's** digital transformation has enhanced brand control, customer experience, and product marketing efforts. Nike has a rigorous distribution approach, selecting partners based on stringent quality, brand image, and ability to provide amazing customer experience. At the same time, Nike has cancelled contracts with distributors that do not match the brand's quality criteria or contribute significantly to the company's distribution strategy. In addition, Nike expanded its online presence by investing in its own e-commerce systems, minimizing its reliance on third-party distributors for online sales. These joint activities have allowed the corporation to optimize

its distribution network while increasing brand awareness. This has led to consistent revenue growth, with return on equity reaching 43.11% by 2022.

c. **Hasbro,** a gaming and toy firm, exemplifies effective digital transition. Hasbro's success is due to its ability to develop unique goods, promote them successfully, retain great alliances, and adapt to changes in the industry. Hasbro has invested in the creation of games and interactive digital experiences. The business has developed several mobile applications, including those that accompany certain board games and allow users to play. This concept has occasionally been faced with opposition since legislation in some US states or other nations requires automakers to work via independent franchised dealers. Hasbro has also created linked toys that can interact with other digital devices via sensors, lighting, and audio for a more immersive gaming experience. The business is also looking at virtual reality. Hasbro has even developed online gaming platforms where users can access a wide range of digital entertainment based on card game properties like Magic: the Gathering. Finally, Hasbro works with major digital channels to increase brand recognition. Overall, Hasbro uses technology to create new experiences while maintaining the entertainment and creative value of its goods, resulting in a return on equity of up to 21.91% in 2019.

But it is crucial to remember that strategy isn't the only way to create value, the organisation needs to have an operational dimension in relation to digital transformation in connection to data governance and systems governance.

Digital Transformation and Governance at Operational Levels

Considering businesses' digital transformation, we will examine the operational aspect of governance, namely the governance of data and data processing technologies.

Digital transformation and data governance

Data governance, as defined by the National Institute of Standards and Technology (NIST), is a collection of procedures that guarantee that data assets are formally controlled across the whole organization. Authority, administration, and decision-making guidelines pertaining to the data generated or handled by the company are established by a data governance model. Historically, data management has been viewed as tactical as opposed to strategic.

However, it should be highlighted that operational data mastery can result in a significant shift in a business's meta-strategic characteristics, which are factors that will determine the strategy, including determining the governance or risk appetite. But there are also challenges associated with these chances for change. For instance, while having access to enormous volumes of consumer data, commercial banks are now prohibited from making money off of this data due to legal restrictions.

Data management is also being disrupted by digital transformation, which also exposes businesses to various risks such as reputational, cyber-attack, and hazards. Even though data management is primarily an operational issue, governance bodies have a critical strategic role in keeping an eye on the operational risks related to digital transformation. Hence digital

transformation can easily lead to data breaches and cause operational risk exposures to the organisation. More rules are devised to protect the data integrity and safety of the customers.

Digital transformation and governance of data processing systems

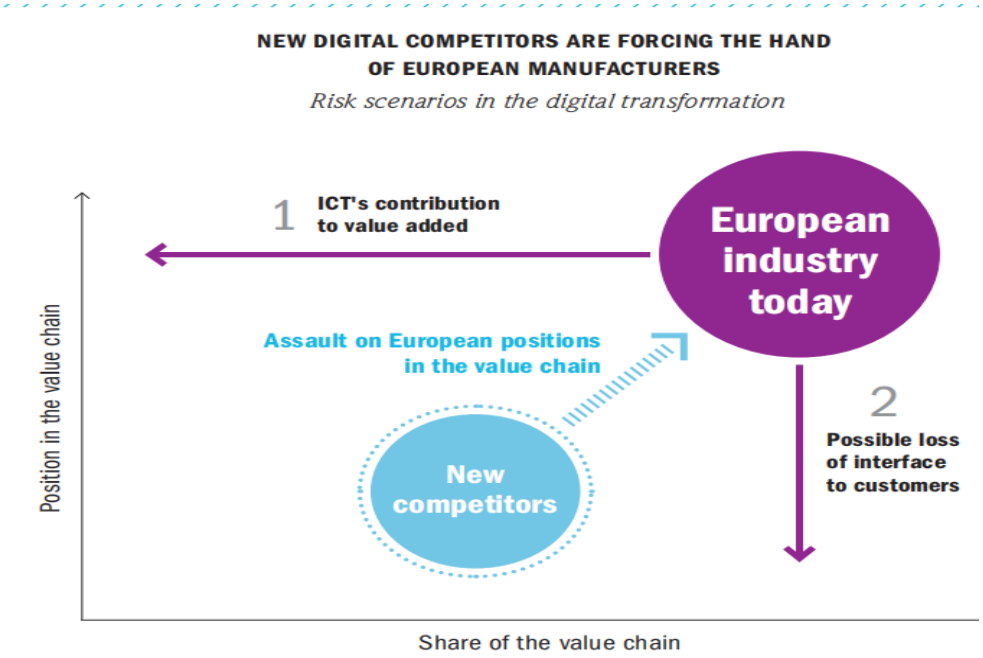
System governance is being significantly impacted by digital transformation as well, primarily because of the rise of Decentralized Autonomous Organizations (DAOs). A DAO is a novel type of organization that runs on a blockchain and is built on smart contracts with preprogrammed rules (Nakamoto, 2008). Since members (the holders of the DAO's tokens) decide collectively, a DAO is decentralized, no single entity has power over the organization.

Issues in Digital Transformation Governance – Roland Berger Strategy Consultants

The effects of the digital revolution have varied, and both developed and developing nations need to consider them. Technology has influenced government as industrialized nations, where it often originates, go through a digital transition. The main concerns brought on by the change of technology are our main emphasis. The extensive survey data from Roland Berger Strategy Consultants, a well-known organization established in 1967, are used in this assessment.

1. **New Competition – Limited Monopoly**

The digital competitors are stirring the review of governance in the manufacturing firms thereby causing new entrants in the business and reducing monopoly. The new technologies are causing a loss of interface to customers and value chain is redefined. The major source of value addition is from ICT and its technology. Figure 4 below shows how the new digital competitors are shaping the governance of manufacturing forms in Europe.



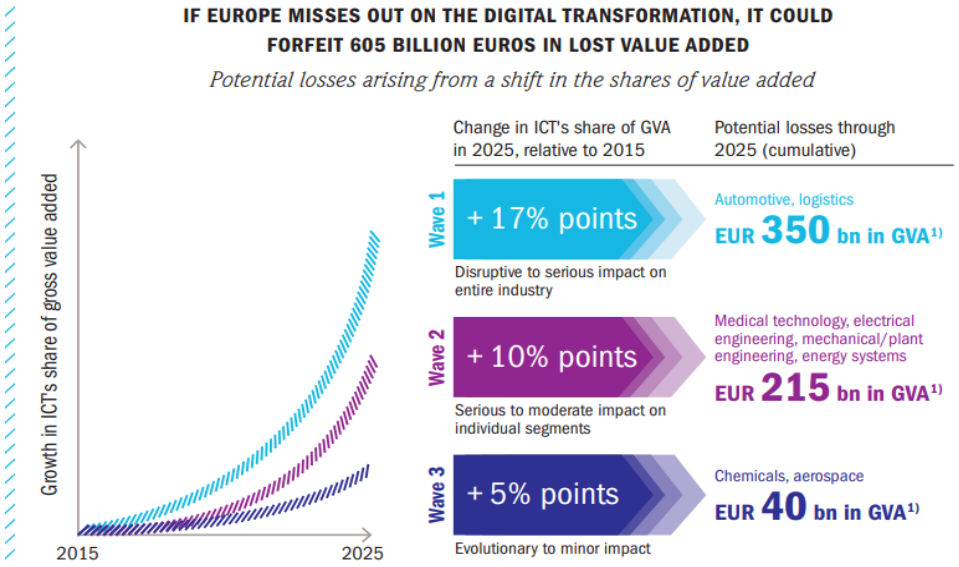
Source: Roland Berger Strategy (2025)

Figure 4: Digital Competitors

Future Implication of Governance in Emerging Countries: The future of emerging economies is expected to follow this pattern. No single firm will define business, and the most powerful unit of the firm will be the ICT department. Developing countries should expect to have competition that goes beyond borders and will be exposed to international rivalry. These competitors do not need to have a physical presence, but they will still mount pressure on local businesses.

2. **What is at Stake Without Digital Transformation**

There are huge losses associated with delayed adoption of digital transition and figure 5 below shows how lost value added is sustained in Europe.



Source: Roland Berger Strategy (2025)

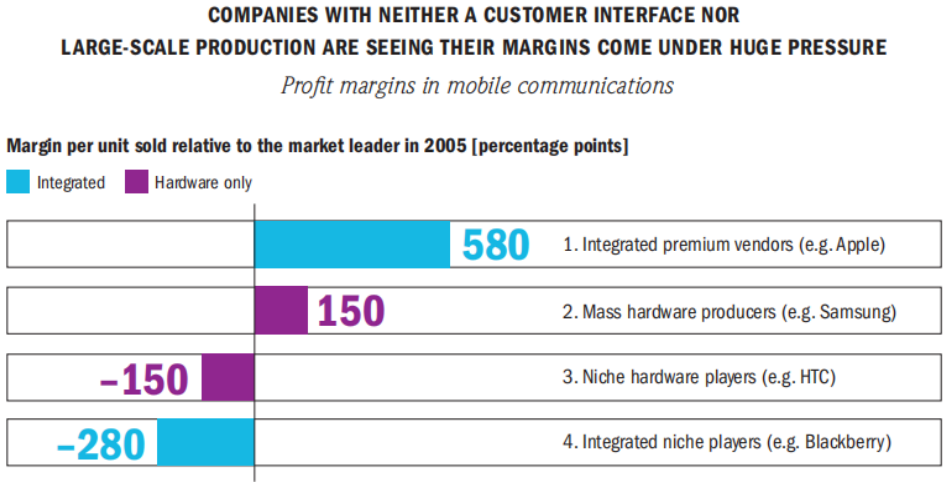
Figure 5: Cost of omitting Digital Transformation

Future Implication on the Governance of Emerging Economies: As laggers in technology adoption, emerging economies will be forced to adopt full digital absorption at both organisational and national level. Individual businesses will have to embrace technology equal to the needs of the industry, failure to which survival and going concern will be endangered and many will fall out. This applies to government systems and working agencies as they will all need to adapt technology to the full.

3. **Digital Transformation on Customer Interface**

The level to which digital transformation has been absorbed determines the margin per unit sold. Relative to the year 2005 from the time of this write up (20 years' time span), The companies that have integrated premium vendor with maximum interface have exceeded 500 million of unit currency (such as Apple) while those that remained with a mere niche hardware and integrated

niche players only had losses of over – 100 million in profit margins in the mobile communication industry. See Figure 6 below from developed countries



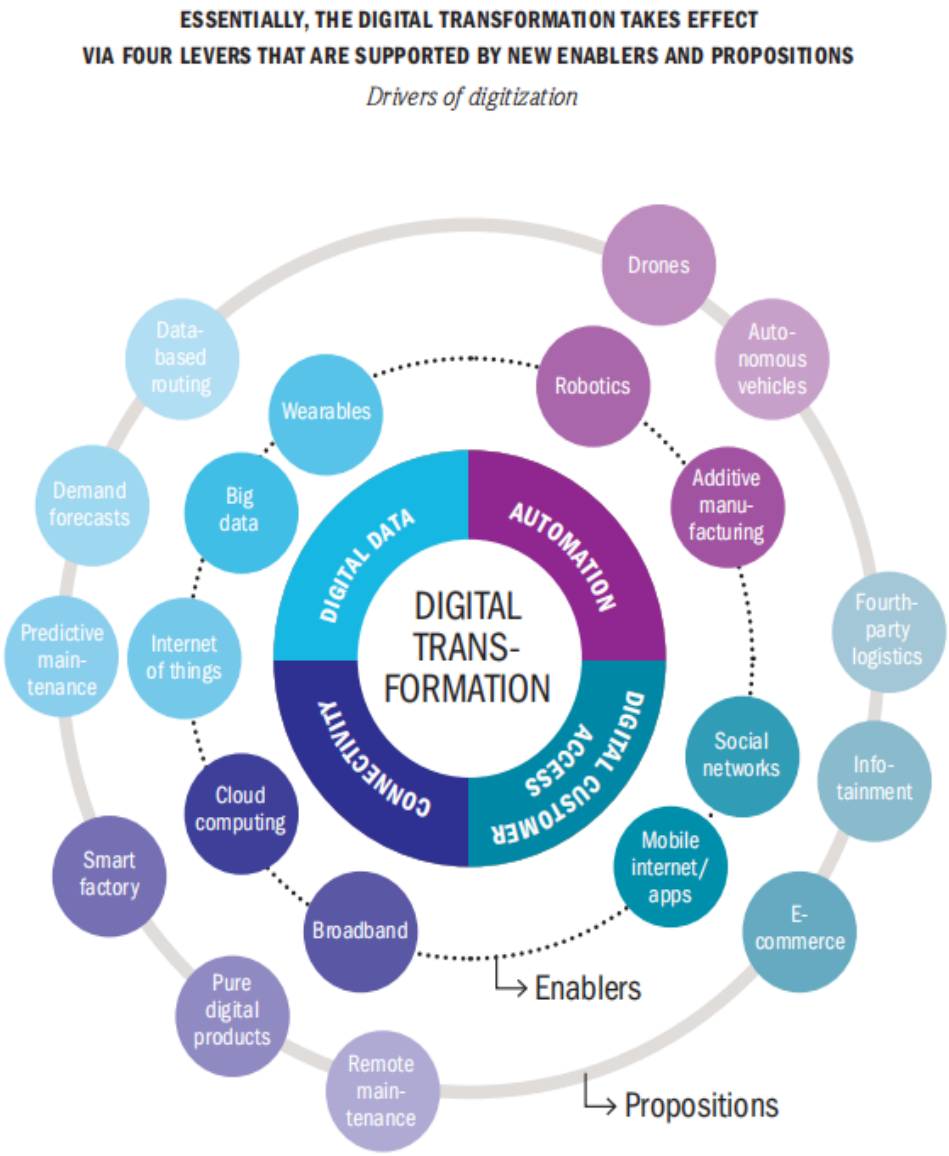
Source: Roland Berger Strategy (2025)

Figure 6: Cost of Limited Customer Interphase Technology and Governance

Future Implications on the Governance of Emerging Countries: Rigidity in the adoption of digital transformation will in any firm in the emerging economies will guarantee huge losses and fall out. Each organisation must race for the transformation into modern facets of technology or choose to drop out of business.

4. The Four Enablers of Digital Transformation

The digital transformation is riding on automation of processes, digital data, connectivity and customers' digital access. All services are attached to these enablers and value propositions. Figure 7 shows the increase in digital transformation through enablers.

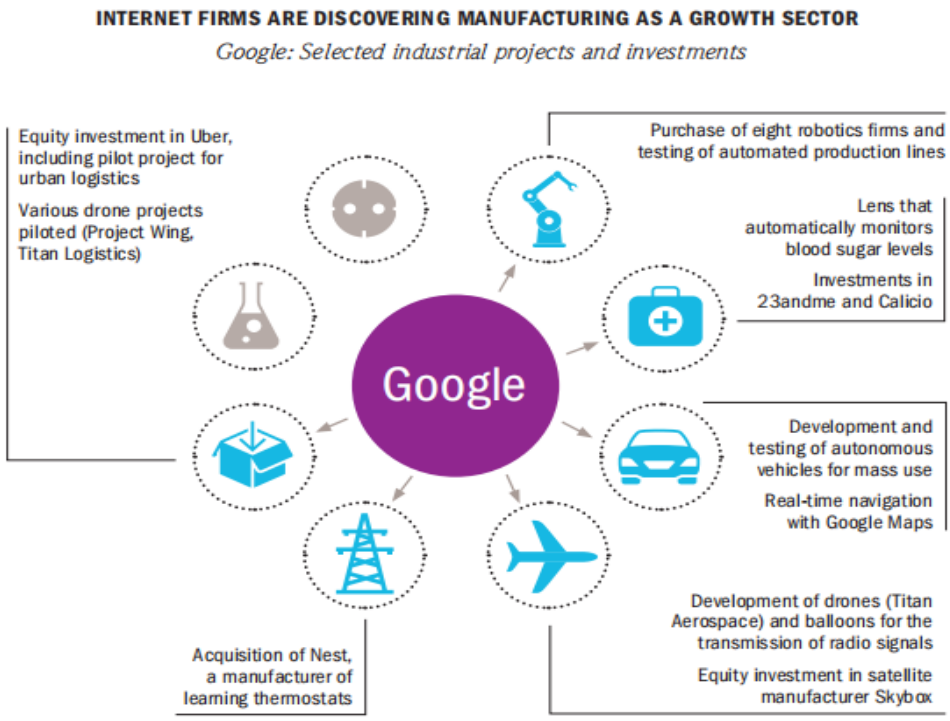


Source: Roland Berger Strategy (2025)
Figure 7: The Four Levers of Digital Transformation

Future Implications on the Governance of Emerging Countries: Essentially all the firms and organisations, both public and private, would need to refine their governance structure and ensure that their processes are automated, customers have digital access, there is proper connectivity and there is available digital data. This is true even now, especially in financial institutions where financial services have increased via mobile money and internet banking.

5. **Expand Digital Transition into the Manufacturing Sector**

   Pioneers of technology have appreciated the use of technology in manufacturing sector rather than restricting to service sector only. As per figure 8 below, leverage in technology is bringing value in manufacturing activities.

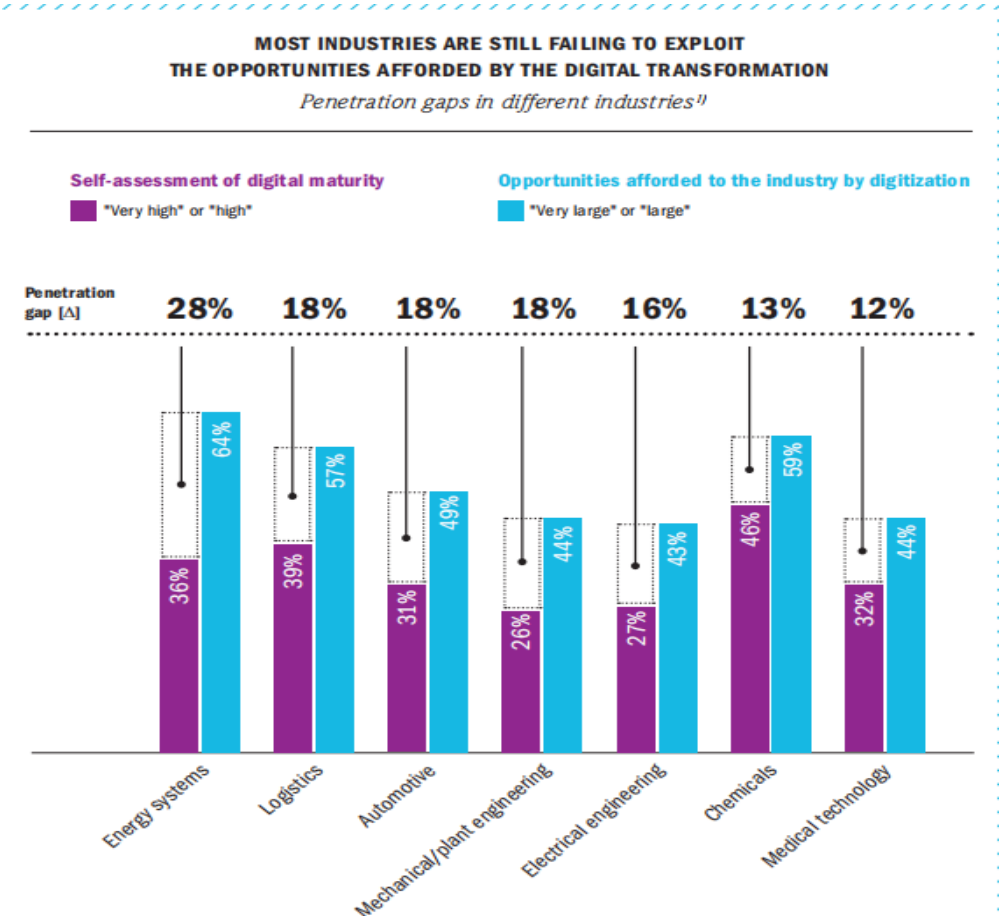


Source: Roland Berger Strategy (2025)
Figure 8: The Value of Digital Transformation in Manufacturing Sector

Future Implications on the Governance of Emerging Countries: Rather than investing technology and digital transitions heavily in the services industry, the emerging countries will have pressure to refine their governance processes into manufacturing sector. The issue of technology in manufacturing industry will enable the survival of their economies otherwise there will be a huge gap between the developed and the third world countries.

6. **A Mere Measure of Digital Transformation in the Industry is not Enough**

The industries which have adopted technology only to a measurable extent with limited exploitation have lost out on many opportunities available to technology. Figure 9 below shows how various industries have absorbed technology at different maturity levels. The penetration gaps have been observed, and this has resulted in a corresponding grip on opportunities.

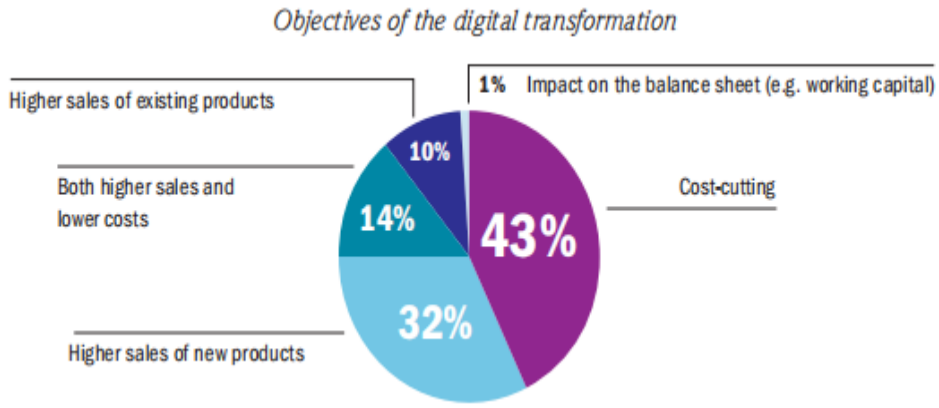


Source: Roland Berger Strategy (2025)
Figure 9: Digital Transformation Penetration gaps

Future Implications on the Governance of Emerging Countries: The main manufacturing and product processing industries will be under panic to penetrate digital transformation. Any firm to survive will need to have its governance structure refined and biased towards an adequate adoption of digital transformation.

7. **Digital Transformation for Right Reasons**

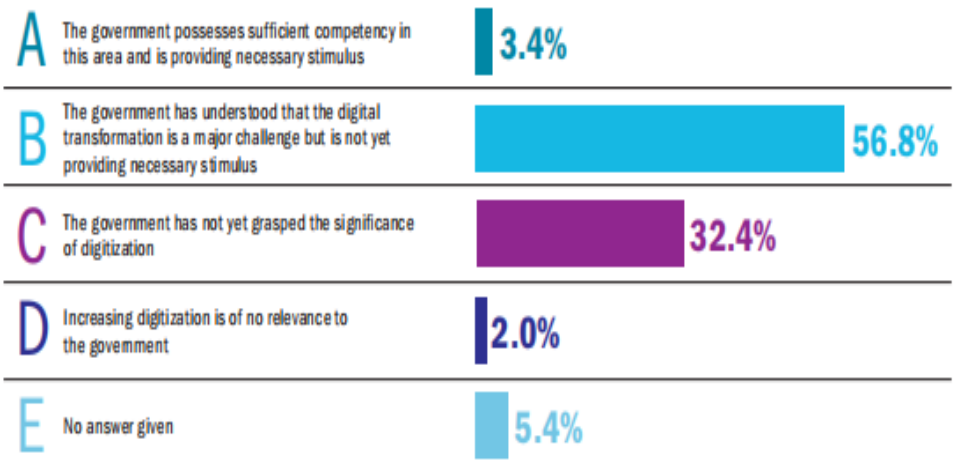
The wrong motive for adopting digital transformation should be refined to realise value. Many firms only align technology to cost management, however, there is more to it than minimising the costs. Figure 10 below shows that 43% of the firms adopted digital transformation for the purpose of cost cutting followed by new products with higher sales. Very little was assigned to working capital growth and improvement of existing products.



Source: Roland Berger Strategy (2025)
Figure 10: Objectives of Digital Transformation

Future Implications on the Governance of Emerging Countries: The emerging countries will need to cultivate the right and balanced view of digital transformation at both the organisation and industry or national level. The focus will have to be on the sustainable and wider range of benefits than cost considerations. Infact many will fall out if they see that digital transformation is coming at a greater initial cost.

8. **The Government has a Role in playing Digital Transformation**
As is obtaining in developed countries, the government has a huge role to play in the outworking of the digital transformation in the general business environment of the country. There were mixed submissions on the perception of the response of the government in technology. The majority submitted that the government has appreciated the role of digital transformation and the role it plays including the dangers, but the reaction is slow and inadequate. Refer to figure 11 and notice that only 3.4% qualified the government to be competent enough to the demands of digital transformation.

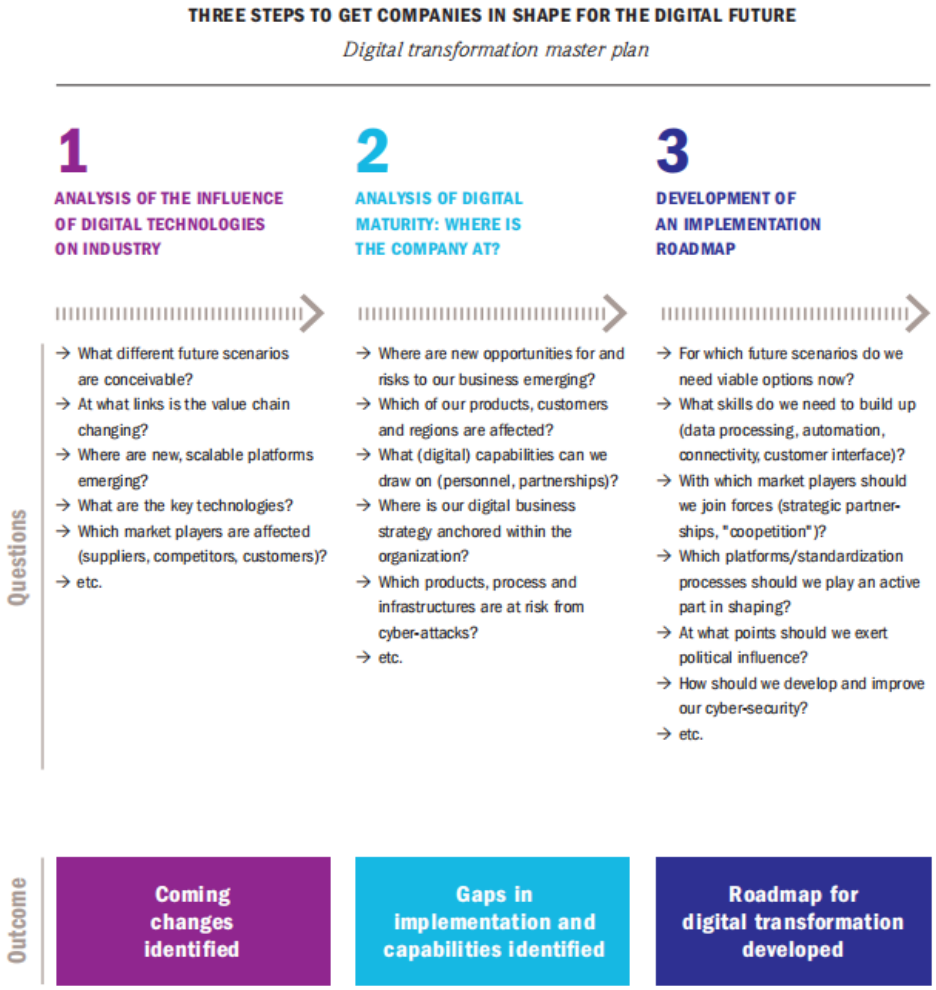


Source: Roland Berger Strategy (2025)

Figure 11: Perception of Government's Response to Digital Transformation

9. Suggested Master Plan for Digital Transformation

Starting with individual needs and all the way to firm, industry and national business grouping, the system of governance that will align with digital transformation will see to it that it follows a master plan such as the one shown below. In figure 12 the summary shows how a step by step may need to be secured to have in place a robust digital transformation road map.



Source: Roland Berger Strategy (2025)

Figure 12: How to get into Digital Transformation

10. The Future of Governance Under Digital Transformation Agility

In summary we can list the projected future effects of digital transformation on emerging countries. Being the laggers in the adoption of technology and the digital transition, we expect these countries to follow the trail that has been followed by developed countries, and their economy will be subjected to the following incidences below;

i. Any firm will need digital transition to sustain existence in business, otherwise a fall out will be guaranteed.
ii. The government will be under pressure to match up with the technology in global industry.
iii. Governments will be pioneers of digital change but will still have limited stimuli to its dangers and many firms will be victims of digital transition effects.
iv. The motives for digital transformation will vary and most of these will have a governance that centres on cost cutting.
v. Competition and global exposure threats will prove to be a norm, and many organisations will have to contend with market share claimed by companies that do not have the physical presence of the locals but will terrorise the local markets through customer digital access.
vi. Emerging economies are moving towards the system of governance that will have processes digitalised in both service and manufacturing sectors with penetration gaps varying between the desired and the actual. Hence all firms must start now to prepare for these projected future occurrences failure to which they will have to stagger and inevitably fall out.

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