

## REVOLUTIONISING OFFICE MANAGEMENT: COST-CUTTING THROUGH AUTOMATION

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### INTRODUCTION

Due to the global financial decline which the COVID-19 pandemic also played a key role, governments have cut down on budgets. Hence, the funding of government owned institutions has dwindled. This has affected organizational expenses, including both capital and recurrent expenditure. The utilisation of automation in office management seems to be a pragmatic panacea. This has the potential to streamline processes, eliminate manual errors, and increase productivity, thus assisting organisations to minimise wastages.

By automating certain tasks, employees are freed up to focus on more strategic tasks that can drive the organisation forward. In 2019, Digital Process Automation soared to a staggering market value of \$7.8 billion globally. The projection for next couple of years in compound annual growth rate (CAGR) is put at 13%, this is forecasted to double its worth to a whopping sum of \$16.12 billion by 2025. While we stand at the brink of digital revolution, the fear of automation snatching away jobs is a pressing concern for many workers. Data available in the developed countries as reported shows that 25% of jobs are at high risk of automation, and a further 36% at medium risk.

However, this has not led to significant job losses, as new roles and industries have emerged to replace the automated jobs. For instance, in the US, new jobs in industries such as software development have emerged, creating opportunities for skilled workers. Also Fraunhofer Institute in Germany reported that automation led to 2.5 times the productivity of firms that do not automate. This boost in productivity results from quality control by eliminating the errors that often arise from manual tasks, which can lead to a significant waste of time and resources. In addition, the use of automation can lead to more efficient communication, which can help to prevent misunderstandings.

Automation is not only a benefit for developed countries but also for developing ones. In India for instance, the government has taken steps to focus on a niche, providing opportunities for the country to compete successfully with giants in the global market on some technological software solutions. This highlights how automation can be a powerful tool for leveling the playing field, enabling developing countries to compete on a more even footing with more developed nations. Since organisations are the building blocks of sectors, and sectors are the building blocks of the national economy, it is however imperative that we get it right from the nucleus.

### PRACTICAL GUIDE FOR OFFICE AUTOMATION

Tasks that can be automated among others involve but are not limited to data entry, financial management,

student record, human resource records, customer relationship, inventory processes, email management, reportings etc. Automated financial management systems can provide real-time financial data, allowing organisations to make informed decisions based on accurate data. It can also assist them to reduce the cost of financial management, as it eliminates the need for manual data entry and reduces the risk of errors. On automation in human resource management, this has the propensity to simplify and streamline the recruitment process, making it easier for organisations to find the right candidates for open positions. These systems can also help organisations to manage employee information, such as their personal details, job responsibilities, and performance data. This not only saves time but also for quality control, to reduce the risk of errors, making it easier for organisations to manage their workforce effectively.

### ON THE WAY FORWARD

The good news is here to allay the fear of job loss which may be a barrier to compliance or adoption of deployed technology for automation. Decision makers in organisations should provide creative and innovative solutions such as retraining and upskilling programs. Fostering a collaborative partnership between humans and machines, and implementing a comprehensive workforce transition plan. The key to success lies in cultivating a culture of learning and adaptability, where employees are open to acquiring new skills and ready to embrace the changes that come with the digital age. By taking these steps, we can transform the work environment into a more positive and thriving space, brimming with endless opportunities for growth and development.

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## EDITORIAL WOMEN IN INFORMATION COMMUNICATION TECHNOLOGY



"What would the world be like without women? I wonder, Lacking later without a doubt, on these I will not ponder. Say not that I praise her because I am one... But men you may not be far from the truth, dearer one know for her ability to multiply seeds and bring ease The world stands to benefit from her hand that peace like wonder the Proverbs: If a woman may sound like myth Yet a simply search and you'll find her in every odd! We've heard it said, "why so many days celebrating women?" Deep down they realize wh of bore it would be with just men! Don't think for a sec and we would have it otherwise...no way! With the men around we'll on all side and away!"

- Frances Kelvin Oling '21

Over the years, women have been encouraged to venture into the world of technology; however, there is a wide gap between men and women in tech. Several barriers still exist that discourage quite a number of women from studying and exploring STEM (Science, Technology, Engineering, Mathematics) at universities, thus, hindering professional equity in tech industries.

Fewer women either choose or get admitted into technology-related courses. As such, fewer women end up working in tech-related positions upon graduation. According to Zippia (2023), statistics show that women hold 26.7% of technology-related jobs. Irrespective, the fact remains that there are no reason women should not be well-represented in the tech industry, especially as there is a need for gender diversity, funding geared towards women's education, and various organisations that advocates gender equity in STEM, such as Nigerian women in information technology (NWIIT) an interest group with Nigerian Computer Society (NCS), Organization for Women in Science (OWSD).

Traditionally, tech used to be a male-dominated field; as such, a few women considered it; while fewer women made it to the top positions, some may feel discouraged venturing into tech. Family caring responsibilities have also been competing for women, making it harder to get and keep tech jobs. Post Covid-19 pandemic effect on women in tech has been especially harsh due to increased childcare responsibilities leading to a high burnout rate among women, with working mothers affected the most.

Although times are changing, with more women gaining ground in tech; however, there is a slow increase. Some of the ways the future of women in tech can be enhanced and ensured are:

1. Creating a supportive culture
2. STEM education at an early stage
3. Financial Support/Funding of research and higher education and women entrepreneurs
4. Closing the hiring and pay gap
5. Mentorship

In conclusion, while there has been some progress in leveling the playing field for women in tech and overcoming systemic issues, more efforts are still needed. Even though there is an increasing number of educated women who possess leadership capabilities, only a small percentage seems to go on to take leadership roles within their profession. This buttresses the fact that there is a need for change in societal mindset, such that people realize women in tech can thrive successfully in their careers irrespective of their marital status. We all need to break all biases and embrace equity, to close the inequality gap experienced in tech industries. There will always be opportunities, and women must continue to step up and take action.

Hence, "a gracious and good woman attains honor" it's a privilege to be a woman. I celebrate all women and the men who are not afraid to have us in their space. It is not a man's world; it is not a woman's world. It's simply OURS. Happy women's day to all the phenomenal women out there, who continue to inspire and uplift each other every single day. We are able and will continue to rise.

#EmbraceEquity  
#TheNominalWoman  
#W

Eho da Ikan o, PhD, MCFM, FNCS  
Chairperson, NCS, Osun State Chapter

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# Articles

## DATA SCIENCE AND ENGINEERING PROSPECTS IN WEST COAST AFRICA

-by Akande Isoluwa  
Data Engineer at Vendase



The prospect of data science and engineering is obvious to any techie. Unfortunately, many Africans don't pass as techies. Instead, we're "wannabe techies" trying to catch up with technological pace setters. To help you make sense of the significance of this tech skill (data science and engineering), I'll show

you its lucrativeness, current demand, and expound on its prospects in west coast Africa. Shall we?

First, it's lucrative nature. In their 2012 Harvard Business Review publication, Davenport and DJ Patil refer to Data Scientists as the sexiest job of the 21st century. They are not only highly paid but in high demand inasmuch that founders are concerned about the scarcity of data scientists. If you attempt to Google search, the highest paying tech skills, data science the med jobs either top the chart or make the top three.

Data science finds a lot of applications in big data and data-driven decision making. There's still a lot of debate about what fits the spectrum of data science. This is because it wasn't a field of study before its demand and diverse application in the real world were noticed. The demand for data scientists drove the need to approve it as a field of study in tertiary institutions. Experts joke that demand for data science shot through the roofs and forced academia to set up a curriculum and adopt it as a field of study. In the same year (2011), data science got approved as a field of study; data science jobs rose by a whopping 15,000%.

Second, the demand for data science and engineering. A 2018 LinkedIn report states a US shortage of 151,717 people with data science skills alone. The lucrative nature of Data Science shares a direct relationship with its demand but is this true for West Coast Africa? Yes, there's a growing demand for data science and engineering in Africa. Although the gap in demand is wide, it doesn't make the demand in Africa insignificant. The demand for data science is congruent with the tech advancement in Africa. It is safe to say that the pace of tech advancement in Africa will reduce the already wide gap between global and African demand for data scientists and data engineers.

We can tell the prospect of data science and engineering in West Coast Africa by examining tech advancement in Africa. So what prospects can budding and professional data scientists expect in Africa? Leon Eisen reports that Africa is a tech hub on the rise. Feats like Six African entrepreneurs making the 2022 technology pioneers list published by the World Economic Forum are early indicators of the prospects of data science in West Coast Africa.

African Private Capital Activity Report shows that private capital fundraising hit an all-time high valued at \$4.4 billion in 2021. This is a 63% increase compared to the performance from 2016 to 2020. Also, Venture Capital Report in Africa shows that West Africa got the highest volume (33%) and a number of VC deals in Africa. In West Africa, Nigeria got 23% of that volume, while East, South, and Northern Africa shared the remaining volume in Africa.

These data suggest that more and more African startups are accessing funding for their innovative ideas. And this means more rewarding opportunities for data scientists. Many of these startups are penetrating health and fintech, amongst other promising markets.

Aside from these startups, big data analytics and data-driven decision making are causing existing businesses to hunt for data scientists and data engineers. For example, data engineers are in high demand in the cloud service, banking, and retail sector. Product developers also leverage the research of data scientists to build relevant products or improve their product offerings in a way that drives more patronage through utility (satisfaction gotten from using a product).

Kraggle's 2020 survey on data science in Africa shows that although slow, data science usage in Africa is increasing. At the time, Nigeria, South Africa, and Egypt led Africa's data science market. 53.86% of surveyed companies assert that they use data science analytics, data-driven decision making, and research that improves machine learning. For a growing industry, you can only imagine the positive spike since 2020.

The grass is green for data scientists and engineers in West Africa. The data scientists' concern should be to hone their skills sufficiently to attract highly rewarding local and international offers.



# Student Information



## TECHNOLOGIES CHANGING THE WAY WE WORK

ChatGPT3 is the new trend that got business leaders, technology experts, educational institutions, and the general public talking for a while. While some were of the notion that it'll revolutionise our approach to work and take over some jobs, others were of the opinion that it'll do more harm than good and possibly impact areas

like human thinking and creativity.

Technology from the onset has been about making lives easier, automating boring tasks, bringing us closer together and making better lives for ourselves. From abacus made centuries ago to AI, making computers act without human intervention, technology has been improving lives, creating more jobs, changing our educational system, and impacting the way we communicate. That's why tech is the new big thing changing the world, and if you don't move fast and join the train, you become left out and archaic.

There have probably been bad sides of technology advancement before now, but we all embrace the good parts like cross border payments which doesn't need you to exchange your naira to dollars or pounds with a local man, virtual reality making virtual meetings feel like an in-person event through connectivity, and helping those with difficulty speaking, convert their words to legible English that anyone can read and understand.

In terms of how we do our daily business like work, school, meetings, grocery, travel, and so on, technology has revolutionised how we do these things, breaking barriers and more inclusivity for less privileged people. Let's look at 3 technologies changing how we do work, which are not likely to fade out in the coming years.

**1. Artificial Intelligence (AI):** AI in simple terms is making computers think and act intelligently. It is a field that contains other subfields like Machine learning, expert systems, deep learning, robotics and so on. It can sometimes be an interconnection of different subfields to create a single product like vision robotics, Siri on iPhone, etc.

From hiring, to firing, AI is now becoming an integral part of decision making and management tools. AI can be used to assess whether a candidate is a potential fit for a particular position, and it can be used to gauge an employee's impact and contribution to the company.

AI is also taking over menial tasks like capturing of data through OCR, and automates usually long and boring tasks and helping companies focus on things that matter while reducing costs. The introduction of chatbots has improved the area of customer service, thereby providing companies with a 24/7 employee that never gets tired or requires extra pay.

**2. Cloud Computing:** Cloud computing allows you to build, access, and store data and applications without having the physical servers infrastructure. It saves you the cost of setting up an inhouse infrastructure while providing you with flexible, scalable infrastructure based on the needs of the enterprise.

Aside saving you the cost of setting up a physical infrastructure and other expenses like maintenance and security, it also provides a wide range of computational resources which can increase as the demands increase and provides data backups when a system is experiencing downtime or is breached.

In an article by Kun Huang, cloud computing was shown to have massive impact on the growth of startups in Malaysia. Cloud computing helps smaller enterprises like startups to focus on growth, delivery, and scale, thereby staying competitive in the market and cutting costs on hardware resources.

Cloud technologies has increasingly help many businesses meet up with supply demands, serve customers across different countries, and backups of their data in various data centres without having to worry about hardware requirements and management. It also creates flexibility across public and private

**3. Internet of Things (IoT):** IoT devices are everywhere, from smart watches, to more sophisticated tools used in manufacturing plants for example. It is a source for data collection and has changed the way solutions are provided, by narrowing down to certain areas we couldn't access due to lack of required data.

It can help organisations monitor and optimise their operations, allow them to detect faulty sections or detect breakdown of equipment or devices. In manufacturing for example, IoT devices help detect faulty machines, trigger alarms at fire incidents, and ensure that factory workers comply with safety regulations. It allows for remote monitoring and management of devices, as updates can be deployed from the server down to every IoT device connected to it. In Agriculture, IoT can help with real time monitoring of water, fertiliser and certain activities in the soil, allowing farm managers to monitor the health of their farms remotely.

Automation is a big part of IoT, as it has taken over time consuming tasks like sorting and littering, saving time, costs and human labour, allowing the company to deploy resources on more important tasks.

Overall, as technology begins to improve, more and more automation will be achieved but it comes with its own downsides, which many argue as loss of jobs. It does take over menial jobs but at the same time, creating many more technology roles which require upskilling to meet the demands of the industry. Technology has indeed impacted the roles we have, and we see more emerging roles like Machine Learning Engineer, AI Engineer, Prompt engineering and so on.

This article summarises 3 technologies that are currently impacting and will continue to impact the way we work and live our daily lives. These impacted areas cut across different fields like Agriculture, Computing, Startups, Manufacturing, etc.

BY: Bunmi Akidrami



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