

DIGITISING NIGERIA

A Policy Report

By



5 November 2018

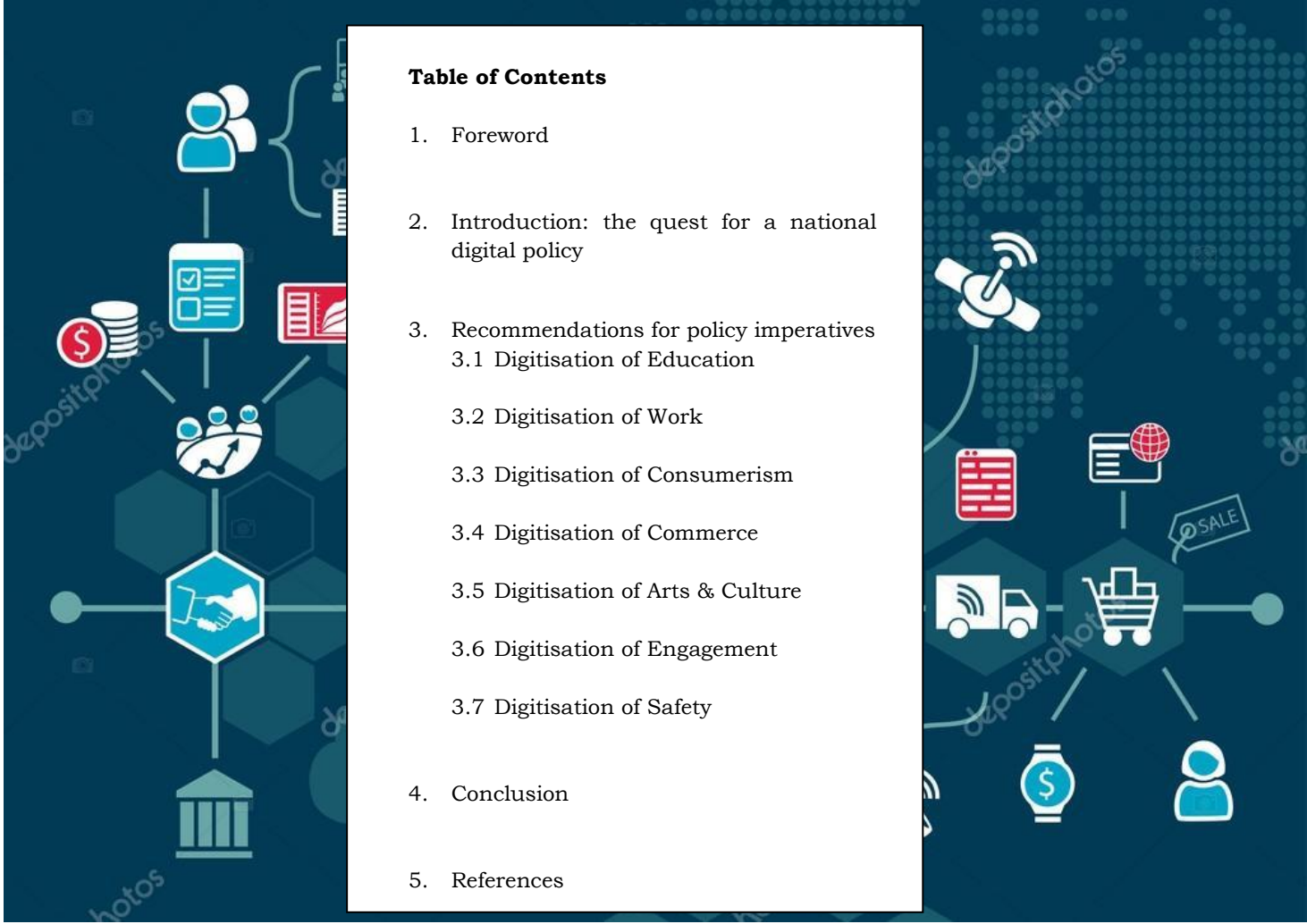
The background of the page is a dark blue color with a subtle world map pattern. It is decorated with various white and light blue icons representing digital technology, commerce, and society. On the left, there is a vertical flow of icons: a group of people, a document with a checkmark, a stack of coins with a dollar sign, a group of people with a graph, a hand holding a tablet, and a classical building. On the right, there is a satellite, a shopping cart, a globe, a 'SALE' tag, a delivery truck, a shopping cart, a clock with a dollar sign, and a person icon. The text 'Table of Contents' is centered in the upper part of the page.

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ICT Driven Knowledge Park - Oak Park

&

Academy Halogen

invite you to

Digitizing Nigeria

A Meeting Of Town And Gown



Date: October 4th, 2018 | Venue: 1, Sasegbon Street, Ikeja-GRA, Ikeja, Lagos | Time: 10am Prompt

Key Imperatives

A digital policy for Nigeria has to be a living strategy - one that can flexibly and quickly respond to new phenomena and issues. It must determinedly and effectively tackle the enterprise security risks and challenges of the new digital age.

Digitising Nigeria therefore requires digitising its people and space and this will entail;

- *Digitisation of Education*
- *Digitisation of Work*
- *Digitisation of Consumerism*
- *Digitisation of Commerce*
- *Digitisation of Arts & Culture*
- *Digitisation of Engagement*
- *Digitisation of Safety*



According to Jumia Mobile Report [2018], the numbers of Nigeria's mobile subscribers has reached an estimated 150 million, whilst internet users have climbed to 97.2 million at penetration rates of 81% and 53%, respectively.

Also, the *2018 Nigeria Mobile Report* indicates that the e-commerce market is reportedly worth \$13 billion in 2018, indicating a gradual adoption of online marketplace by consumers.

Our finding at Academy Halogen further confirms that in Nigeria, digitisation is fast becoming indispensable for many citizens and commercial institutions, especially among the youth that constitutes over two-third of the nation's population – although digitisation is still low in adoption in public sector's circuits.

With this in mind, Nigeria as a nation needs to be prepared for the working world's requirements in our knowledge society and be able to take part in this transition.

The key to this is education, because those that are not able to link up to the

digital world will not be able to take part in a whole range of activities and developments.

The partnership between Academy Halogen and Obafemi Awolowo University ICT Knowledge Park [OAK Park] is focused on digital education. This entails developing competencies that lead to self-assurance in using digital devices and applications and developing enterprise security risk solutions for the market place.

This will be complemented by policy interventions that will enable our nation to adjust to changes that emerge due to the use of new technologies and new ways of working.

Key to the Academy Halogen and OAK Park partnership is “lifelong learning” via up skilling of young people, delivered within a philosophy of individual learning that is independent of place and time. This will be a system of education that is embedded in practice.

Dr Wale Adeagbo
COO: Academy Halogen

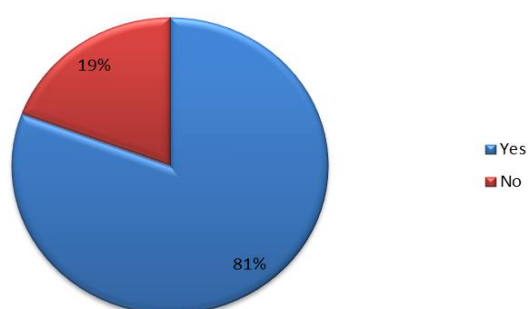


Fig 1: From our survey, 81% of Nigerians do not know what digitisation means

***Business and the Need
for Safety in an Open
World by Jimi Awosika
[Vice Chair & Group MD,
Tryoka]***

***Extract from the paper
delivered at the
'Digitizing Nigeria'
session organised by
Academy Halogen &
Obafemi Awolowo
University, Ile-Ife on
Thursday 4th October,
2018***

... your life, my life, everyone's life, is now an open book- open to everyone everywhere that the interconnected web of information technology can cover...everyone and everything we do are in the open, everywhere in the open world, which includes air, land, sea and outer space. So, welcome to the surveillance society, where Frankenstein and Big Brother are no more fiction; as privacy is the casualty of the voyeur society.

Also welcome to the age of the techno human, where the human is battling to make technology human and technology is making man a breathing piece of technology. Interestingly, the crux of these whole phenomena is the battle between artificiality and humanity. Between machine and man. Between the operating system of the technology and the soul of the human being. Information technology, biotechnology and machine learning are hacking man's very organic operating system, with technology being available today that is capable of engineering mind, brain and body.

Paradoxically, as we are witnessing the tension between these contending phenomena, at no time in the history of man has there been so much opportunity as there are challenges. For, thanks to the ascendancy of knowledge, new thinking leverages even downturns to frame opportunities for discoveries, innovations and human progress.

Advantage is no more about scale or physical size. According to Rishad Tobaccowala, Chief Growth Officer of Publicis Groupe, the third largest global communications network and partners of Insight Redefini, what is needed by organizations now in order to continue to prosper is not cheap arrows but talented archers with the ability to "re-think and re-invent ourselves including recognizing that worshipping and ritualizing old scale might increasingly be following a false God".

This is why intelligence is the new capital in the post digital world; which has framed the new industrial revolution- the cognitive revolution, fuelled by the new religion dataism, the mindset or philosophy created by the emergent significance of big data. Elevated to a new ideology, information flow has become supreme value, even above scale for business. This is why the data and innovation premiums have attained primacy over scale in consideration of business value.

And this self-spurning phenomenon of discoveries with mind boggling capabilities is where the greatest threat to safety in an open world- technological singularity- could lie.

So, in the cognitive revolution as we have now, security is becoming ever so central to business strategy, which makes design thinking a non-negotiable competency that must be understood and employed because organizations have to be proactive and pre-emptive in order to thrive or even survive. The point being made here is that we have to bake security into the life of the business, encompassing everything that the business does.

The value of a business is therefore now more inextricably linked to its ability to protect itself from attack either due to its actions or inactions or the poisoned keypad of disaffected consumers or envious competitors.



This is our open world!

So my question to business is this. Who is your watchman, to police your assets and footprints in order to maintain safety in this open world? Who is your prophet, who knows what time it is and what you have to do in order to be relevant per time? Who is your priest to build soul into your business and its products or output and provide you with the goodwill and reputation that is the chief factor of the customers' consideration for doing business or interacting with you?

Answers to these questions frame your only guarantee for your business to thrive and survive in today's open world.

I see academic models with interesting curricula as engineering and spirituality, with the engineer and the priest and the security spymaster personas needed for designing fields of study that address wicked problems that come out of criminal minds emerging. Education, constant, progressive and relevant education, becomes about our only salvation because as Ben Gurion says, "All the experts are experts on what was. There is no expert on what will be."

This is why dot.edu must collaborate with dot.com; learning institutions with business institutions.

Businesses and educational institutions have to integrate understanding of human nature into learning of how to reach people at the deep place of meaning. Educational institutions now have the urgent responsibility of building the talent for the twenty first century, an age where disruption is the sure enemy of businesses making the same choices that made them successful in the past.

I think that we should design a massive billboard at the gate to the world and the message should read: It's an open world; safety first.



2. Introduction: the quest for a national digital policy

Shaping the digital transformation in Nigeria is a task that must be all-embracing, as it affects the whole nation.

From our survey, 95.7% of Nigerians claim to have received fraudulent emails/text messages at some point, while the personal computers of 77.8% have been infected by some form of virus. Other major issues that respondents have include having their data hacked, being defrauded online, illegal use of their personal data/profile and emails sent in their name.

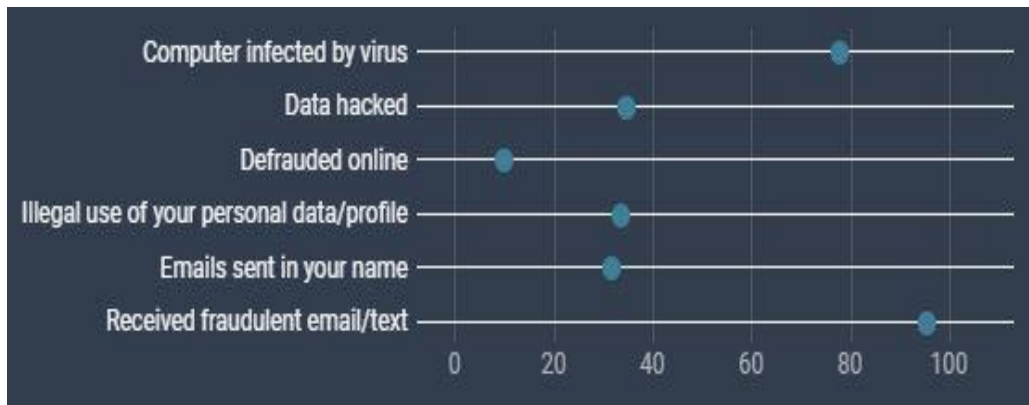



Fig 2: Analysis from our survey - Most Nigerians have had incidences of data breaches and this have affected their views about digitisation

Therefore, the task of shaping the digital transition for business, the workforce and consumers in Nigeria requires political guidelines, hence the need for a national policy. Part of the need for this policy is to achieve clarity of vision as we ensure a fair balance of interests among all stakeholders involved in the global data-driven economy, so that we do not drive digitisation forward with-out reflecting on the impacts.

What Nigeria needs is a national guidance on how to digitise the world of business, social interactions and work, with clear strategic direction, whilst we maintain finely-tuned judgment. It is only with an innovative digitisation, guided by robust national policy that enables the maintenance of balance of interests within society. A clear policy will enable Nigeria to take on a leading role in the digitisation of business, living and working arrangements that directs itself to opportunities, earns trust and ensures security.

Academy Halogen is suggesting the need to a commitment to develop and institutionalise a Federal Government digital policy that is strategic with clear focus and is well coordinated. A digital policy by the Federal Government of Nigeria must establish goals that include digital participation, cyber-security, building-up of digital commerce and competences, whilst reinforcing these with specific measures.

The best foundation for shaping the future of the Nigerian nation is a market economy well balanced in its social-policy arrangements, offering security and flexibility to enterprise and citizens. Flexibility without security would lead to people not committing themselves to difficult learning processes, and consumers withholding their trust from new digital business models. Security without flexibility would also mean that no creative climate can develop for innovations.




Companies need sufficient scope to thrive, enabling them to develop innovative and competitive business models. In addition, the state is an important engine of and for innovation, in fostering new technologies. The state also has responsibilities for ensuring security and safeguarding fair, consumer-friendly markets.

Therefore, to get digitisation right, the imperatives of enterprise security risks must be firmly established and welded into it. Nigeria should aspire to be one of the most secure digital locations worldwide. That is why we must work at improving IT security – while ensuring that our legislative systems are equal to digitisation challenges.

In our view, as Academy Halogen, digital transformation of enterprise and society can only be a success if citizens' protection standards are applied and safety is assured. Citizens must be assured with the knowledge that new business models and new products and services' offerings are provided in a fully responsible operating environment – one that is safe and free from discrimination, especially with regards to individuals' personal data. This demands transparency and opportunities to channel the data-flows, as well as adherence to rights of individuals' self-determination. The responsibility of our nation is the provision of a digital policy that sufficiently caters for and aids the development of innovative digital business models, whilst simultaneously protecting individuals' data sovereignty.

From our nation-wide survey and policy session at Academy Halogen indicate that Nigerians want to learn how to leverage on available data. Hence, the integrity of those data, their applications, the readiness of Nigeria to a digitised economy; and engagement between government and society are pivotal. Our survey indicated that majority of Nigerians agree that a framework on digitisation is long overdue even though it is not explicitly encouraged by the Nigerian government, as there appears to be a lack of political will. Therefore, digitising Nigeria requires digitising the people.

To shape and implement a national digital policy efficiently and effectively, there must be need to want to adopt some guidelines as our starting point in establishing the Federal Government, in order to keep pace with the global digital transformation.





3. Recommendations: Some Policy Imperatives

3.1 Digitisation of Education

Young people should be introduced to digital education and technologies at an early age. Their enthusiasm should be awoken for technology-related topics. For Nigeria to be digitally competent, basic knowledge of information science, programming and algorithms should be obligatory curriculum elements in primary and secondary schools. This will enable our schools to impart what is called “computational thinking”.

The Nigerian government should invest in equipping schools and vocational institutions for this purpose. Digitally skilled and competent personnel will become an indispensable foundation for Nigeria’s economic and innovative power and competitiveness, what is required is the strengthening of digital competencies. This is part of the initiative that Academy Halogen and OAK Park has partnered on, with a Cyber Hub and internship programme for young people.

3.2 Digitisation of Work

Digitisation is hugely impacting on work. Experts claim that digitisation will be decisive in maintaining individual workers’ capacity to be employable and will be at the fore front of employers’ capacity to take action and be innovative. There is also the view that those in work have a major need for direction and advice on questions of further training and that, in particular, there is a need to attain higher participation levels by older workers. The Nigerian government and employers must invest in the strengthening of digital skills and qualifications and further training and in improvement of opportunities for advancement. This initiative must be proactive and must not be allowed to step into action when jobs are under direct threat, as a result of technology and innovation. Therefore, lifelong learning and training “on the job” will increasingly move to the forefront. Academy Halogen and OAK Park’s joint initiative also addresses this need.



3.3 Digitisation of Consumerism

Living and consumption environments have fundamentally changed as a result of digitisation. If consumers in Nigeria wish to be effective market partners and active members of the digital society, they must be enabled, encouraged and motivated to do this and be supported by relevant policy framework. In view of the high level of technological dynamism, it is important for consumers to have fundamental competence with regard to the digital world. This includes knowing one's rights and obligations in the digital world; the knowledge of what data is, ability to influence and evaluate the quality and neutrality of portals, search machines and labels. A national digital policy is essential to inform people about business models that serve the purpose of researching consumer behaviour and about how the web can be used in particularly advantageous ways to consumers, without compromising on human right, privacy and security.

3.4 Digitisation of Commerce

Digitisation is changing our economy. Using new business models, innovative and fast start-ups are driving developments. From small to medium-sized businesses, digitisation offers opportunities, such as intelligent production and services' procedures that boost productivity and efficiency. It further enables individual customer wishes to be accommodated, new markets to be initiated and tapped into with wholly new products and innovative working structures. Nevertheless, knowledge of the opportunities and options for use of digital innovations and practices remains limited, especially among SMEs in Nigeria. Hence, Nigeria government needs to foster conducive atmosphere that will enhance digital commerce. Training institutions like Academy Halogen and OAK Park should be supported in the quest to bridge the gap.

Worldwide, digitisation has a vast effect on competition. There are examples where new business models turn existing market mechanisms on their heads. This applies to the data economy, one that is developing extremely and dynamically. What Nigeria needs to be aware of is that future developments have an open-ended outcome. In what are the fast-moving and mostly global markets of the data economy, young companies can become "global players" within just a few months, displacing the old-aged organizations that previously lead in the market. Therefore, the Nigerian government must provide scope for innovation, investment and the disruptions that come with this competitive environment.

A national digital policy must be able to guarantee fair competition for all market participants. In cases where adaptation is needed, the Nigerian government must create enabling policy that transfer the rights of our social market economy into the digital age, enabling everyone, including small and medium-sized enterprise, to participate successfully in value creation. Enterprise needs a level playing field, where the same rules apply for all participants. The establishment of new, digitally-based business models on the market must not be allowed to lead to the emergence of competitive advantages for those companies whose organisational form is geared towards circumventing protective standards that relate to employment law and the law on social-welfare standards, or to avoid taxes and other safety issues.

3.5 Digitisation of Arts & Culture

Culture and creativity have become important economic sectors in their own right. The culture industry in Nigeria – represented by Nollywood and the music industry – now creates jobs and contributes an estimated 2% to the nation's GDP whilst it hosts 'soft power'. It also serves as an engine of innovation for technological and digital developments. Nigeria therefore needs to initiate cooperation between the creative economy and other sectors, such that it promotes transfer of innovation across various industries' boundaries.

3.6 Digitisation of Engagement

The Nigeria government will require a Digital Agency in the form of a "think-tank" that will provide policy and scientific advice to the Federal Government on digital issues. Academy Halogen and OAK Park can provide some support and act as part of the resource. This requires meaningful engagement of stakeholders - such as trade unions, students, professional associations, employers' associations and consumer organisations, in addition to non-government organisations - in the task of strategic decisions on digital policy, in order to place the shaping of digital policy onto the broadest foundation possible. There will be further need to strengthen some federal agencies such as the Ministry of Justice, Consumer Protection Council etc - to ensure the currency of their operations and practices.



3.7 Digitisation of Safety

If we wish to shape digitisation in Nigeria, safety and risk management must be at the fore front. The Nigerian government should create conditions that enable fair competition where citizens are effectively protected.

Innovation and growth in the digital economy and the comprehensive protection of personal data, as well as data sovereignty, are two inseparable issues that are key in digitisation. Freedom and self-determination are now unthinkable in an open society without protection of privacy and of personal data. Economic and technological progress will be successful, in a digitised Nigeria, when individuals [consumers] can have trust that they retain control over their data and that they are protected both against abusive processing of that data and third parties' unauthorised access to it. Our surveys at Academy Halogen suggests that 74% of Nigerians are concerned about their privacy in the internet, worrying that their personal data is being misused or passed on without their authorisation.



Fig 3: Respondents major worries about the digital space, especially as relates to their personal data

An important step on the path to improved data protection and strengthening of data sovereignty is the EU General Data Protection Regulation [GDPR] that was passed into law in May 2016 and that aims to harmonise data protection law in Europe in 2018. This regulation creates a uniform, high level of data protection throughout Europe, containing the principles of transparency, purpose limitation and data minimisation. This regulatory framework will assist to ensure the basic rights to the protection of individuals in the processing of personal data, thus affecting a balance between consumers' interests and legitimate commercial interests. Nigeria needs is equivalent of this legislative instrument in our legal architecture, to assist in ensuring success in strengthening data-protection from the human rights perspective.

4. Conclusion

From now and into the future, the speed, diversity and innovative power of digital transformation will continue to generate opportunities and challenges, especially with regards to enterprise security risk management. This will necessitate new thinking and new solutions. Issues like securing of access to digital products and the retention of the social market economy in a digital world will demand close collaboration between all stakeholders – government, businesses and citizens.

The world and everything we do as humans is about numbers. This is why enterprises are moving from the physical to the digital realm. Therefore, digitising Nigeria will bring about a new nexus of opportunities and challenges.

This will necessitate new national ‘architectural’ systems and policy guidelines that will assist how we maximise the opportunities and mitigate the risks that come with digitisation, as there will be the need for safety in the new world.

A digital policy for Nigeria has to be a living strategy, one that can flexibly and quickly respond to new phenomena and issues. It must determinedly and effectively tackle the enterprise security risks’ challenges of the new digital age.

Our guiding theme at Academy Halogen, takes its strengths from the German model as a reference. The German digital policy is characterised by social partnership, with a focus on

small to medium-sized business sector, strongly innovative industries and a high level of export orientation.

To take learning from this, Nigeria needs to create a modern data economy. The nation also needs to establish a clear legal framework for data use and align with Europe’s high standards of data-protection that will enable us to check whether our legislative instruments are equipped to match the digitisation challenges.

One of Nigeria’s targets should be to become a role-model in Africa at linking up areas of industrial competence with digital opportunities. The nation should aim to see our small to medium-sized enterprises actively engaging with digitisation, so as to be able to assert their market positions and conquer new markets.

The Nigerian nation also needs to expand its technology programmes for research that is close to practical application, directed at fostering digital cutting-edge technologies.

To ensure that the digital transformation of Nigeria gains maximum support, it is essential that the nation becomes a learning society, whilst preventing a split between winners and losers of the digital age.

An important supporting pillar of successful digitisation is the safeguarding of citizens’ rights, transparency and security.

References

BMAS. 2016. Monitor: Digitalisation at the Workplace. Latest results of a survey of a Company and its Employees. Berlin

BMWi. 2017. Impulse für die Digitalisierung der deutschen Wirtschaft, retrieved: <http://bit.ly/1Kq6SKy>, July 2018

Digital Policy for Business, Work & Consumers. July 2017. Federal Ministry for Economic Affairs and Energy (BMWi); Federal Ministry of Labour and Social Affairs (BMAS); Federal Ministry of Justice and Consumer Protection (BMJV). Germany.

Leadership Nigeria. 2018. Nigeria e-commerce market

Hilbert, M. And Lopez, P. 2011. The World's Technological Capacity to Store, Communicate, and Compute Information, UOC.

List of Attendees & Contributors to the Policy Session of 4th October 2018

- | | |
|--------------------------|-----------------------------|
| 1. Lamidi Bandoh | 45. Folashade Oshun |
| 2. Ejayeta Imoh | 46. Kehinde Ajanaku |
| 3. Femi Ajayi | 47. Timothy Egumi |
| 4. Simileoluwa Babalola | 48. Olajide Makinde |
| 5. Onwualayah Chioma | 49. Abiola Adetayo |
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| 17. Onawoya Oluwatobi | 61. Prof J. Egrakhe |
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| 19. Tolu Lufadeji | 63. Fasimirin Lekan |
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| 21. Uwem Jimmy | 65. Ijeoma Opara |
| 22. Haruna Umar | 66. Olufemi Omotayo |
| 23. Tony Anyebe | 67. Veronica Amlarakp |
| 24. Kessington Adegbuyi | 68. Rashidat Abdullahi |
| 25. Olabimpe Eboegbume | 69. Iyiola Ayoola |
| 26. Falola Adebayo | 70. Olusegun Aibor |
| 27. Ndubuisi Ekeku | 71. Emmanuel Adeyemi |
| 28. Babatunde Asaaju | 72. Grace Edema |
| 29. Ibitade Abayomi | 73. Amos Benita |
| 30. John Sunday | 74. Banjo Ayo |
| 31. Sola Ayoade | 75. Goke Akinpelu |
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| 39. Olabisi Familusi | 83. Dr. Temitope Aladesanmi |
| 40. Shofolahan Oluwaseun | 84. Prof. A.S. Bamire |
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| 44. Taiwo Julius | |

Academy Halogen

Academy Halogen is Nigeria's premier security and enterprise security risk management institution established to serve as a policy think-tank across the industry's value chain. The institution was founded on the need to create knowledge in pursuit of safety in an open world. We do this via thought leadership, creating and disseminating new knowledge via capacity building across key competencies, creating a space for research, reflections and policy dialogues and establishing the standard in the practice of security.

Some of our training programmes include:

- Cadet Certification
- Certificate in Security Management
- Diploma in Security Management
- Advanced Diploma in Security Management
- Professional MBA in Security Management
- Cyber Security Certifications
- Corporate & Specialised Training

OAK Park

The OAU ICT Driven Knowledge Park (OAK PARK) – a Center of Excellence - aims to facilitate the convergence of technological advances in various disciplines whilst enhancing the development, transfer, and commercialization of technology and research outputs. It will also promote the launch pad for start-up companies borne out of university research activities, and advancement by partnering companies, who will have the competitive advantage of close proximity and direct access to the intellectual infrastructure and output of the university.



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