

# **Digital Disruption: Threat or Opportunity**

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**CONTENTS**

1. Introduction
2. Thesis
3. The state of Global Digital Disruption
4. Insurance Digital Disruption – some examples
5. The Digital Disruption ecosystem
6. Nigerian Insurance – Digital Disruption Outlook
7. Threats and Opportunities of Insurance Digital Disruption
8. How to prepare for Digital Disruption in Insurance
9. Snapshot of future Digital Insurance in Nigeria
10. Close

## 1. INTRODUCTION

My name is Siegfried Jegels. Thank you for inviting me to be a part of this conference. A large part of my interest and passion lies in Futures and Futures study. Our world is changing at a rapid rate due to technology and the disruption it brings, and this is shaking up industry, including insurance.

To understand the nature, effect and impact of a Digital Disruption, let me start by posing a simple question. What is the definition and nature of business?

In essence - an economic system where goods and services are exchanged for money between a willing seller (or company) and a willing buyer (or customer) through the most convenient channel.

By implication, a company who has the most customers or potential captive customers, with a viable product offered at an acceptable price, has the most optimal business opportunity.

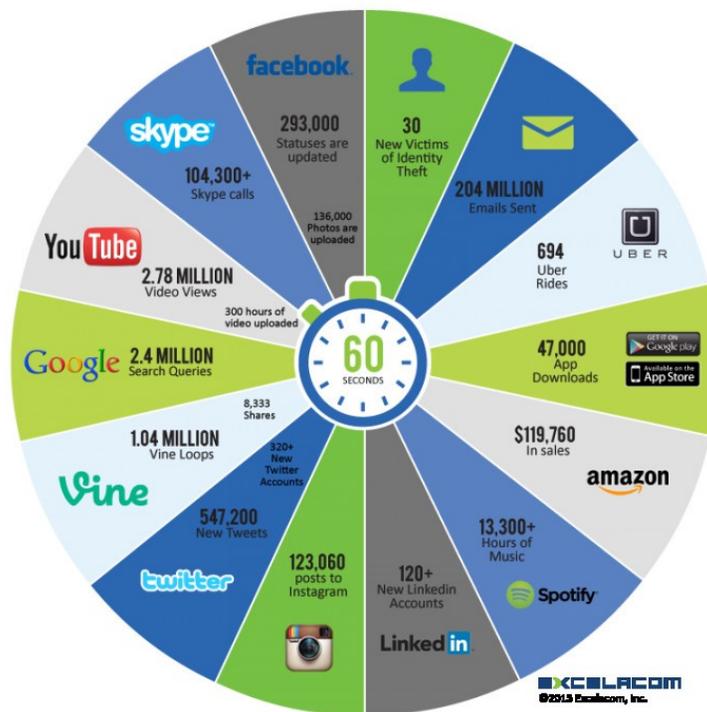
In this regard, which known digital companies today have the most customers, or potential customers (users)?

- Facebook (2.3bn)
- Youtube (1.9bn)
- Whatsapp (1.6bn)
- Instagram (1bn)
- Amazon Prime (100mn)
- Uber (75mn)
- Twitter (330mn)
- Linkedin (303mn)
- Skype (300mn)

This is significant, because despite these companies not selling insurance, they have captive audiences and customers, with whom they have built a relationship of trust and high customer loyalty over the last decade. In addition, they have encountered and captured a significant part of their customers' experience and journeys. This provides them with very strong customer data.

To comprehend the power and prevalence of these companies in our daily lives and business, let's see what happens in an internet minute:

## What happens in an INTERNET MINUTE?



Choosing to ignore this digital revolution is at one's own peril. The current generation is a digital native. That is how they choose to interact. Today's customers are fast becoming online "only" customers. This means they communicate via digital channels, they purchase online, they pay their bills online, they build their networks online, they learn online and they consume online information. In fact, due to the access of data and information, today's customers are extremely well informed.

## 2. THESIS

Central to all of Digital Disruption, lies the need to access and disseminate data, perform various analyses and subsequently form insightful perspectives thereof. Insurance is an industry which is premised on a rich source of data and is arguably the industry with the most comprehensive and detailed source of customer data whether structured or not. Not only does Insurance have dense customer Data, the premise of the business is based on performing data intensive activities, including pricing, modeling, underwriting etc. It is proven that machines are much better at computational and data analysis tasks and therefore insurance is an industry which will be significantly disrupted. However, there are various technology enablers, which can help insurers transform their business and gain significant competitive advantages.

I therefore propose that Digital Disruption is:

- **a major Threat to traditional Insurance players** who are slow or averse to adapt to and adopt disruptive technologies
- **a massive Opportunity to forward-thinking Insurers** who are willing to undergo rapid Digital Transformation and leverage Digital Technology and/or partner with Insuretech entities to improve their value proposition

### 3. THE STATE OF GLOBAL DISRUPTION

To substantiate my Thesis for this Paper, and to provide you with a Global Context wrt Digital Disruption, I wish to play you a video courtesy of Accenture:

#### DISRUPTION VIDEO

In their Insurance Disruption Report, Tällt made this powerful statement:

“There’s an uncalculated cost of insufficient, or even absent innovation”

Given the rapid advances in technology and data analytics, combined with greater customer awareness and expectations, the insurance landscape is experiencing heightened innovation. All these shape the sector’s longer-term future. And much of this change is fueled by technological breakthroughs impacting the gamut of the human, social and commercial ecosystem. As a result, investment into insurance has increased significantly in the last years with a record amount of 3.5bn USD in 2018.

Customers (consumers and businesses) are increasingly demanding simplicity, transparency, mobility and speed in their transactions. This applies equally to the types of on demand products, as well as the relationships and engagement with insurance companies, whether that be through traditional channels or new digital channels.

More and more insurance is ‘bought’ by customers as opposed to being ‘sold’ by agents. In other words, customer demands and needs proactively drive the kind of products they seek, versus the traditional approach of insurers developing products and selling this into market segments. Since customers are also more aware and better informed, their loyalty is predicated on personalized and delightful customer experiences. As a result, switching costs for customers are much lower, since they can easily change to a competitive brand which meets their requirements better.

This requires of insurers to re-examine their capacity, roles and relevancy, and consequently adapt or transform their business and operating models. There is a massive expectation for brands to engage in a more personalized manner with personalized product and usage-based offerings. Often the terms of engagement are more dynamic and unbalanced, where customers demand exceptional brand experience and value adding utilities.

This requires the modern-day Insurer to be much better at understanding customer journeys, and the related pain points and needs, as well as being agile enough to change, and quick enough to act. This enables insurers to better target specific customer segments and creating products and services to fit their unique needs.

“Programmes of sustainable innovation no longer guarantee growth and longevity. Disruptive innovation has to be managed alongside continuous innovation.” – Tällt

“Innovation is the only Insurance against irrelevance” – Gar Hamel, Strategos

The re-modeling of the business and operations, should follow a sequence of:

- Customer Centricity (through customer journey mapping),
- Optimization of process (e.g New business, Claims) or product / service (e.g direct or digital based and managed) focusing on simplicity, convenience and harmony,
- Innovation of new process (e.g digital claims and underwriting) or product / service (e.g on demand or usage based product or cyber),
- Rapid design and Prototyping (e.g by means of digital incubator / Accelerator to deliver a Minimum Viable Proposition),
- then if successful, remodeling of business process, product, offering and lastly,
- Building an economy of scale and scope

Technological advances have enabled insurers to optimise processes and operations. All leading to gains - some marginal, some significant. But a business based purely on continuous optimisation in today's world is simply not sustainable.

“There's an uncalculated cost of insufficient, or even absent innovation”.

Rapid digitization and technology innovation means entire industries are being disrupted by new, agile, smaller, more efficient players, who can are able to quickly scale and displace long-established competitors.

“Since 2002, 52% of the Fortune 500 companies are no longer around; most are now expected to last no more than another 15-20 years. Rethinking models, shifting away from the poor consumer experience deeply entrenched within the insurance market and embracing new technologies is a must for any insurer. And, as with many other industries, has already given rise to a number of notable disruptors.”

“The increased use of digital technologies could add \$1.36 trillion to total global economic output in 2020, according to a recent study by Accenture and Oxford Economics.” (Insurance Disruption Report, 2016)

## **4. INSURANCE DIGITAL DISRUPTION**

### **THE DISRUPTIVE CONTEXT**

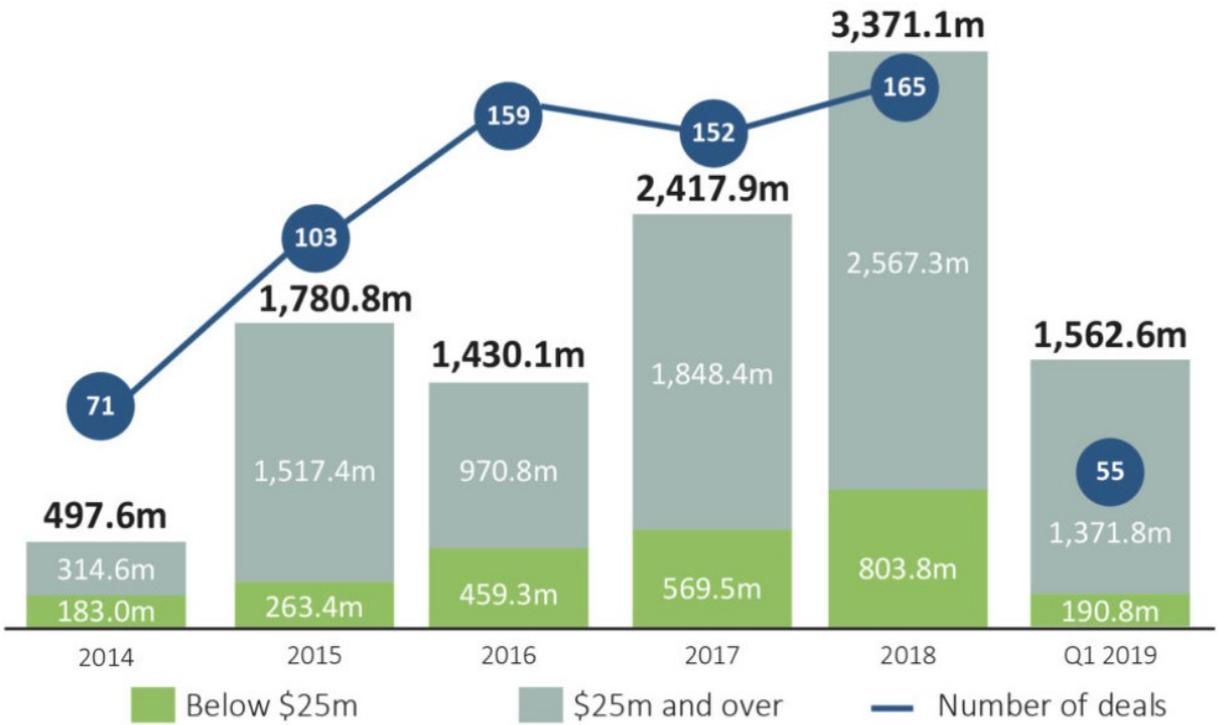
The venture and corporate investment market are investing significantly into new, emergent and often disruptive businesses across the entire insurance ecosystem. This may result in rapid scale, market authority, cannibalization of traditional insurance, new niche markets and social influence. It is imperative for Insurers to evolve their strategies, business and operating models, as well as their transformation from traditional to digital based organizations. In addition, they need to plan and budget in order to make provision for a range of economic scenarios, as a result of the impact of insurance substitutes, alternatives and new digital pure play entrants. Often left for last, it is critical that the industry find faster ways to meet the increasing demands and changes of the regulatory environment driven by digital innovation.

### **EFFECT OF DATA & IOT**

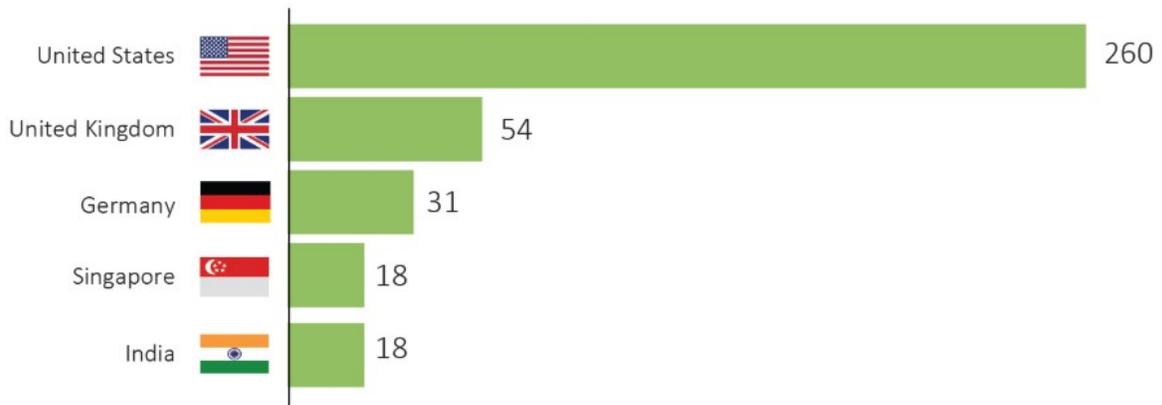
“From as early as records begin, the insurance industry has been built using data to make tactical and strategic operational decisions - which customers to target, how to price the risk, how to estimate the losses, etc. However, over the coming years data will start to play an ever more critical role. Large amounts of real-time sensor data, unstructured data from social networks, and data such as text, voice and video will need to be captured. And as sophisticated artificial, predictive and augmented intelligence techniques evolve, insurers will start using this unstructured data across all aspects of the business and customer lifecycle.” (Fintech Global and Insurance Disruption Report)

### **INVESTMENT INTO INSURTECH**

For the first time in history Global Insurtech investment broke the 3bn USD level in 2018 and in Q1 2019 it has nearly achieved 50% of the total 2018 investment amount. Below Source: Fintech Global.



The leading countries in Insurtech investment are:



## 5. INSURANCE DIGITAL DISRUPTION – SOME EXAMPLES

PLAY VIDEO OF TRÖV and LEMONADE

TROV (Goods)

**VALUE PROPOSITION:** Organise, Value, Protect.

The world's only on-demand insurance platform for the things you own. The mobile app automatically organises information about the things people are buying, including receipts and market values, and stores it securely in the cloud.

**DISRUPTION:**

By digitizing goods purchase receipts, Trov users can seamlessly access details about their "assets" and are able to establish an insurance cost based on when they are about to embark on a potential "risk activity". The user can now "activate insurance" based on usage and/or time lapse.

LEMONADE (Rental / Home)

**VALUE PROPOSITION:** Convenient. Fast settlement. Socially Conscious. All digital

Users can sign up in 90 seconds, and submit claims in 3 minutes. Lemonade also aims to pay users back much more quickly than a traditional insurer would. Their rental premiums start from as low as 5USD and home insurance 25USD. They speed up all aspects of the insurance journey, both on the consumer and business side.

**DISRUPTION:**

Lemonade is a pure play digital insurer thereby significantly reducing overheads due to its lean operations, and also improving its combined ratio. Users sign up for the service through an automated bot, so the company doesn't need to pay for a sales team. Lemonade also does not offer auto insurance, which has a lower profitability rate, and therefore does not need to raise home insurance prices to offset auto losses. The business model is based on profits by taking a 20% flat fee from users' premiums (advertising this on its homepage). At the end of the year, any unclaimed premiums after fees are paid are donated to a charity of the customer's choice.

Additional examples:

CUVVA (Auto)

**VALUE PROPOSITION:** Convenience. Mobile. Short-term usage. Speed.

**DISRUPTION:**

Short-term usage-based insurance via Mobile app within 10 minutes. From the smartphone app, the driver registers their details, and the time they would like to be covered for. They are then prompted to take a photo of the vehicle and authorise payment, allowing them to drive away instantly. The creators decided what an hour long risk looked like to an underwriter and then worked with the insurer's risk committees and the regulator to develop pricing.

SURE (Travel)

**VALUE PROPOSITION:** Convenience. Mobile. Short-term usage. Speed

**DISRUPTION:**

Sure is a mobile on-demand insurance app providing micro-duration life insurance coverage during flights. Plans can be purchased up until the time of flight departure and are available up to one year in advance of travel. The online platform is elegant and intuitive, providing episodic insurance opportunities. The app has a simple mobile sign-up procedure and fully integrated customer support.

BIMA AFYA (Health)

**VALUE PROPOSITION:** Convenience. Inclusion. Access to economically disadvantaged. Micro.

**DISRUPTION:**

BimaAFYA is a mobile micro-health insurance product in Tanzania specifically targeting the economically disadvantaged. The platform allows the user to make enquiries, register a policy, select affordable cover, make payment for the premium via mobile money and access the bimaAFYA benefit wallet via the mobile phone. They providing a completely paperless service which can be completed on any device connected to the internet. They have designed monthly, tri-monthly, quarterly and yearly packs to enable the average Tanzanian pick an affordable policy that falls within

their income at that particular time. The service was designed to alleviate the issues of the dynamic income of the target population.

KASKO (Whitelabel)

**VALUE PROPOSITION:** Online business partner. Digital. Point of demand sales.

**DISRUPTION:**

Kasko is a German startup providing whitelabel platform (website and app) for digital businesses to sell insurance products and services. The startup allows their customers to sell insurance products at the point-of-demand using a plugin or API. Their focus is on providing flexible insurance to allow companies to provide their customers with simple short term policies. Types of companies covered include test driver coverage, car rental companies, car and camper sharing, and flexible travel insurance to name a few. The company offers a number of integration options ranging from a simple website link to full iFrame integration.

OSCAR (Health)

**VALUE PROPOSITION:** Connected Health. Direct Medical Support. Real-time treatment

**DISRUPTION**

Oscar is a health insurance company that employs technology, design, and data to humanise health care. Customers can view past medical history in a secure, social media type feed, or type in symptoms and get treatment suggestions. The product interfaces with a doctor-on-call programme allowing customers to connect with GPs by phone within an hour. It also interacts with any IoT or health wearable to update medical status and condition of the user. By opting to use the wearable option the user gets a up to \$20 a month for meeting their step goals using a Misfit wearable fitness tracker.

## 6. THE DIGITAL DISRUPTION ECOSYSTEM

The insurance ecosystem is rapidly being altered by means of technology, digitization, product / service / channel disruption, substitutes, disintermediation, diversification and regulatory change.

The traditional insurer now has to take into account:

- a much more knowledgeable customer, who wants personalized protection
- offering a seamless and simplistic experience premised on convenience and delight
- developing more direct digital based products which have on demand and usage aspects
- working with mounds of electronic data which needs to be interconnected to provide a holistic risk profile
- embedding digital risk, underwriting and claims processes which leverage the efficiency, accuracy and speed of AI and machines
- working with regulatory environments that may not be ready for digital based solutions or have new rules for digital players, channels and/or products
- providing real-time integrated value based services to corporates by drawing insights from the vast amount of company and industry data, as well as related risk parameters
- the threat of new entrants/substitutes such as banks and telcos cannibalizing the market and capturing traditional insurance customers due to the trust they have and the better understanding of customer needs and financial profiling
- the need for staff with skillsets who can operate in a more data analytical environment with judgment and technical aptitudes

### TOP 10 INSURTECH TRENDS (The Digital Insurer and KPMG extract)

#### TREND 1 – Digitize or die

Incumbent insurers need to fundamentally change their business models, moving from siloed operations to fully connected enterprises. This requires a cultural change, a focus away from products and a move towards organizing themselves entirely around the customer, their experience and outcomes

#### TREND 2 – Ecosystems rock

Highly automated insurance platforms will become the new normal. The successful incumbents will be the ones who learn from them, adapting and adopting their tech where appropriate.

#### TREND 3 – It's a new game, press the reset button

There is an increasing focus on the development of middleware solutions to reduce dependence upon legacy systems and improve access to data. These will be aimed at driving growth, internal efficiencies and the internal view of how a company works.

#### TREND 4 – Digital risk reduction

Health ecosystems are essential for the future success of those operating in the life sector. Wearables are increasingly contributing to this market, and without access to these datasets, insurers may not be able to manage risks or engage with their customers.

#### TREND 5 – Focus on the digital customer

Business as usual must break the models of the past. There is a need for cultural change and alignment with the specific markets insurers service, providing risk capital on different terms to a market that comprises large numbers of small risks. Insurtech allows this type of business to be profitable.

#### TREND 6 – Data is the new oil – and the price is going up

Data is the lifeblood of the new order. Any lack of data will likely create gaps and cause integration and process flow issues, so it needs to be assessed from as an end-to-end process. Insurers that lack data, or the partners and models that generate it, can expect to find their business models severely challenged.

#### TREND 7 – Master AI and machine learning now

AI and machine learning is an intersectional tech with applications across the value chain and may prove to be the biggest driver of efficiency.

#### TREND 8 – Auto insurance – disruption coming but direction not clear

The move in auto coverage from insuring individuals to the vehicle will continue. It's likely that automakers may develop their own ecosystems to package insurance into their interaction with their client. Driverless vehicles continue to be developed and

further disruption may be caused by new entrants that are not traditionally associated with the transport market.

#### TREND 9 – New roles for the oldest skills

Big data will likely undermine the role of certain types of underwriting, though it will remain essential in specialist areas, such as shipping, key employee risk management, etc. The skills of underwriters and actuaries will still be in high demand and can be redeployed into offering greater understanding of the vast amount of data that a digital insurer generates.

#### TREND 10 – Skill up and reorganize urgently for a digital world

Good companies need good people. Recruiting and retaining employees is expected to become more important as engaged and happy employees create a ‘vibe’ that translates into happier customers. In insurance, a happy customer is usually a loyal customer.

#### SUBSAHARA LOOKING AHEAD: 10 PREDICTIONS FOR 2025

Sub-Saharan remains the fastest growing mobile market, with mobile broadband and smartphone adoption gaining momentum.

“Sub-Saharan Africa will transition to higher levels of mobile engagement in the coming years, underpinned by growing access to mobile data services and smart devices as well as a youthful population that almost entirely relies on mobile for digital services, according to the GSMA Intelligence Global Mobile Engagement Index (GMEI).”

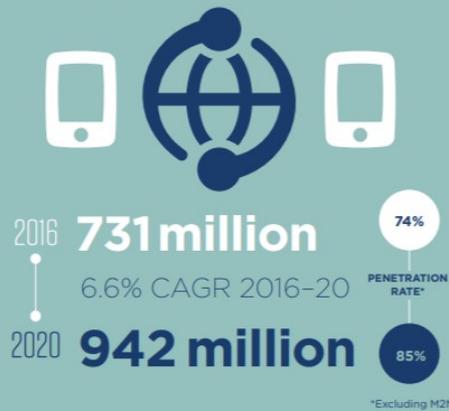
“Consequently, mobile has become the preferred platform for creating, distributing and consuming digital content and services, including those that help address various social challenges in the region. Opportunities in mobile-based innovation are attracting talent and investment to the tech startup ecosystem in Sub-Saharan Africa. Some 77 tech start-ups across the region raised just over \$366.8 million in funding in 2016, growth of 33% compared to the previous year. Mobile operators also play a central role in the tech start-up ecosystem through collaborative ventures with innovators and tech hubs, providing direct investments and access to key network APIs and distribution channels.” (GSMA Intelligence, Mobile Economy, 2017)

# MOBILE ECONOMY SUB-SAHARAN AFRICA

## Unique mobile subscribers



## SIM connections



### ACCELERATING MOVES TO MOBILE BROADBAND NETWORKS AND SMARTPHONE ADOPTION

Mobile broadband connections to increase from 33% of total in 2016 to

**60%**  
by 2020

By 2020, there will be

**498m**  
smartphones, growth of 300 million from the end of 2016

Mobile data traffic to grow by a CAGR of

**66%**  
over the period 2016-2020

## Data growth driving revenues and operator investments

### Operator total revenues



Operator CAPEX of up to **\$31 billion** for the period 2017-20

By 2025 it's anticipated that 634 million people in the region will be mobile subscribers, up from 44 percent and 444 million people in 2017.

After witnessing aggressive subscriber growth in recent years, the adoption curve will slow to "half the level recorded over the preceding five years", the report notes.

However, at a CAGR of 4.8 percent for the period 2017-2022, the regional subscribe base will still be "more than double the global growth rate over the same period".

It's expected that there will be 690 million active smartphones in Sub-Saharan Africa. That's a growth of 440 million handsets in the next eight years.

Sub-Saharan Africa will be the last region to see 5G services launch, the GSMA predicts. It expects the first commercial 5G services to be launched in the region by 2021, with 12 million 5G connections, or about 2.6 percent of the total connection base, in 2025. (GSMA Intelligence, Mobile Economy 2017)

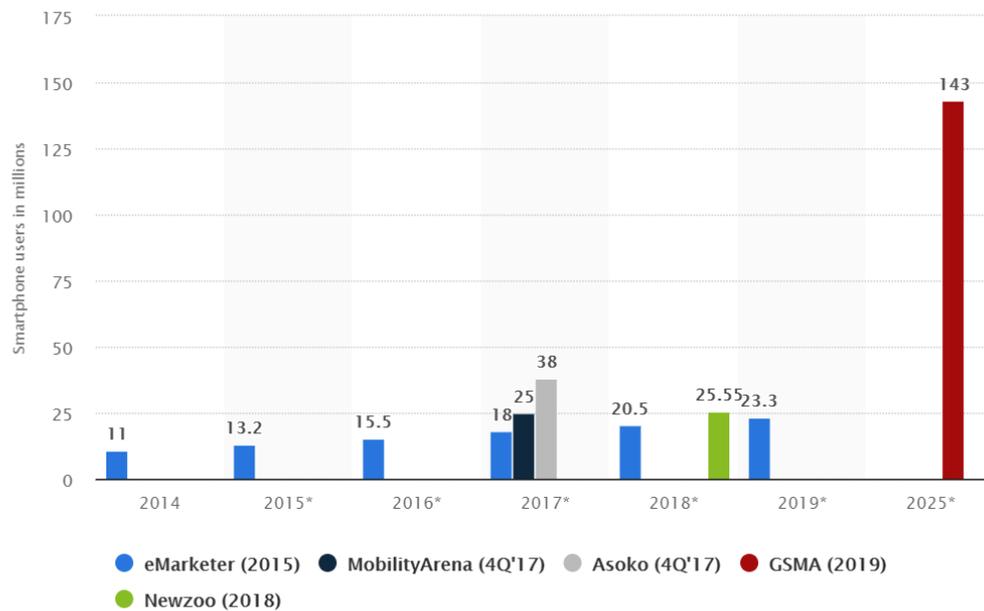
## CHANNEL DISRUPTION – UNDERSTANDING ONLINE

- Amount of time people spend online – just over 8hrs per day (ref: Zenith Optimedia)
- Number of social media accounts – 2.1billion active social media accounts (Ref: wearesocial)
- Number of mobile phone users – 3.7billion mobile phone users (Ref: wearesocial)
- e-Commerce opportunity huge – 72% of SMEs are not selling online in US (Ref: Remarkety)
- Size of ecommerce market – The e-commerce market is a 1.6trillion USD
  - 1/5th of companies in OECD now have an online commercial presence selling online.

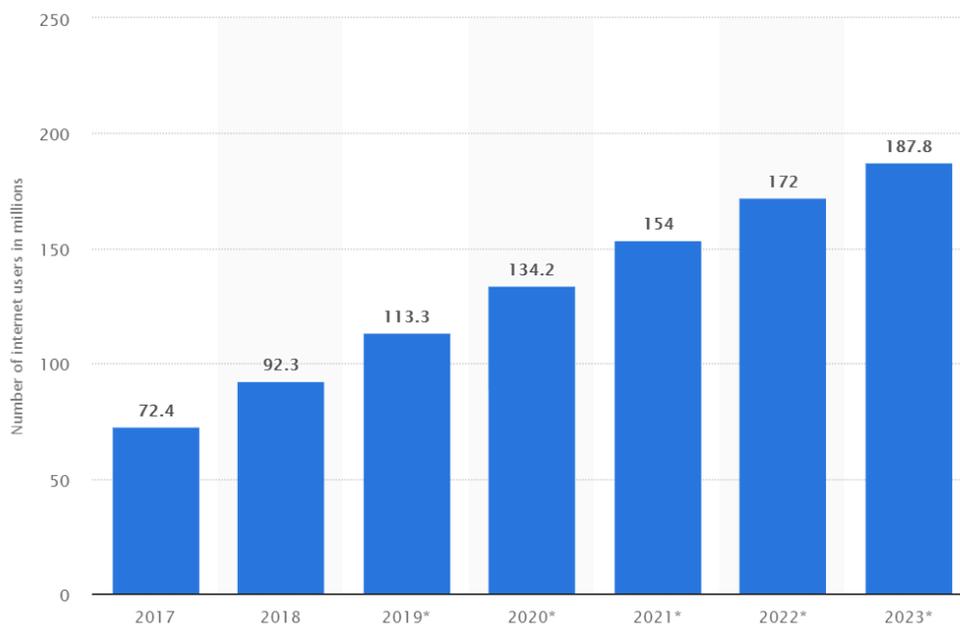
## 7. NIGERIAN INSURANCE – DIGITAL DISRUPTION OUTLOOK

### DIGITAL CHANNEL DEVELOPMENT

The number of smartphone users in Nigeria, Africa's biggest economy and most populous country, is forecast to grow to more than 140 million by 2025. Currently, estimates from different sources put the number of smartphone users in Nigeria at roughly 25 and 40 million.



In 2018, Nigeria had 92.3 million internet users. This figure is projected to grow to 187.8 million internet users in 2023. The internet penetration amounted to 47.1 percent of the population in 2018 and is set to reach 84.5 percent in 2023.



The growth and growth potential of mobile and internet penetration, provides insurance with a great opportunity to begin to launch mobile and online direct products and services.

Given the rising middle class in Nigeria, especially in populated large cities, there is a greater spend on goods and lifestyle. Pure play digital insurance disruptors (in the

vein of Lemonade and Tröv), with a captivating and coherent marketing pitch, and visible social media presence, can capture this segment easily. Part of this is due to the fact that millennials and the middle class are much more open to transact online.

Micro-insurance delivery has proven to be most effective by means of mobile (as seen in Asia and parts of Africa). This is based on the fact that mobile is able to reach beyond peri-urban regions into rural areas where the population is either unbanked or uninsured. Their homes, business and lives face significant risks based on weather extremities, job loss, disease etc. Mobile therefore becomes a critical delivery channel for them.

Corporate Insurance faces various risks in the Digital age. These include among other:

1. Cyber-Crime / Data breaching: which can destroy the value and operations of a business overnight, including its brand value. Not to mention theft of digital assets, intellectual property and client information.
2. Property Damage: At the same time as Digital has evolved, we live in the age of greater environmental disaster with stronger storm systems, colder weather, drought cycles etc. These risks can severely damage property and also have a destructive effect on an industry.
3. Agricultural disaster: As mentioned in the previous point, weather extremities can result in crop failures
4. Human Capital loss / displacement: the uptake of Digital based processes and organizational models, may result in the displacement of employment in some categories.
5. Health and Medical aid: Greater use of IoT and fitness / health wearables change the risk profiles of employees. These factors need to be taken into account.
6. Capital Allocation and Risk management: Digital operating models and systems impact the size of the business, the type of capital investment and reduced overhead costs. This changes the risk profile of the entity and the kind of asset allocation.
7. Asset Management: Blockchain and AI offers greater security with respect to managing and growing assets in a much more scientific and rapid-response fashion

## **BANKS AND TELCOS CAN PLAY A DISRUPTIVE ROLE**

Historically Banks and Telcos enjoy a high level of trust from their customers. Banks have a much higher level of trust and loyalty given the nature of the service dealing with someone's earnings and immediate livelihood. Given the cost of data and mobile

telephony, and a regulatory regime which generally has been more in favor of the telco carriers, users show less trust towards telcos, but still have a greater dependency given the need for connection and communication.

Insurance enjoys the least amount of trust, which is common in the industry worldwide, primarily due to the cost of insurance (especially due to various risk parameters) vs the payback expected and the bureaucratic process involved in the event of a claims incident. This aspect of insurance combined with the rise of fraudulent practitioners and services, have further tarnished the industry.

Moreover, Banks and Telcos already enjoy the benefit of digitized business and operating models, including mobile money and mobile wallet services.

Already various banks either have or are considering in-house and self-owned retail insurance products compared to bancassurance via an insurance partner.

Given the banks and telcos rich customer data including insights into their retail spend and communication patterns, places them at the forefront of being able to offer insurance substitutes and thereby disrupt the industry.

This evolution is partially dependent on the extent to which the regulatory regime will open up such market opportunities and the regulatory conditions for operating.

Insurers can choose to partner with banks to leverage the trust and customer relationship and banks can partner with insurers to leverage the insurance and technical know how to drive product development.

## **REQUIREMENTS FOR THE DEVELOPMENT OF DIGITAL DISRUPTION**

In most of the markets where there have been a proliferation of Digital Disruption in Insurance, 7 key factors were prevalent:

1. Customer demands / needs which required innovation
2. Ready / Available Capital Investment (if not ready, frugal and willing seed funding)
3. Innovative / Disruptive entrepreneurs / thinking
4. Available markets for disruptive adoptions
5. Modernised Regulatory environment
6. Enabling Digital environment (incl underlying Technology, Digital practices / standards)
7. Potential to scale

## 8. THREATS AND OPPORTUNITIES

Various Threats exist for existing Insurers, whether they are Traditional Insurers or a hybrid of Traditional and Digital.

Continuous innovation does not guarantee sustainability, as massively disruptive technologies can rapidly change a landscape (telephone systems, electric and autonomous vehicles)

At the same time, entrenched and acceptable services, without significant painpoints, is not a safeguard against disruptions (example Uber and Airbnb).

### THREATS

- Loss of business
- Loss of market share
- Loss of staff
- Disruption to distribution, product and technical prowess
- Disintermediation – loss of agents / brokers
- Insurtech
- Banks & Telcos offering inhouse insurance
- Aggregators
- Substitutes

Digital Disruption also presents several opportunities, which before were either not available, or limited in scope.

### OPPORTUNITIES

- New markets
- Improved Risk management
- Growing internet and smartphone users offering new online distribution
- Demand for digital based products
- Collaboration with insurtech
- More effectively deliver New product and service opportunities
- Business optimization – improved efficiency, cost savings
- Value creation
- Better understanding of customer needs
- More optimal way to extend the reach to customers, as well as acquire, engage and deliver services to a customer

## 9. DIGITAL DISRUPTION IN INSURANCE OUTLOOK

Various aspects of the Insurance industry and organization will be impacted by Digital Disruption

- Big Data: from traditional paper based and unstructured loose electronic data, to more organized digital data environments, providing a base case for Big Data transactions
- Risk management: from descriptive and diagnostic analysis to predictive and prescriptive / intuitive insights
- Products: from broad based generic products to specific on demand usage-based products
- Disintermediation: from intermediary agents, brokers and partners directly to a customer
- Robotics: from manual and human services interaction to robotic services and interaction
- Insurtech collaboration: from standalone to integrated and augmented insurtech services / APIS and expert partnerships (IoT, telematics, data science etc)
- Regulation: from administrative to modernized / automated transparent rule-based requirements
- Process: from complexity to simplicity and convenience, with ability to scale
- Customer experience: from general customer engagement to seamless multi-channel engagement with unique and tailored customer journeys and segments
- Business and operating models: from manual human led processes, to digitized automated machine led models with greater agility and pervasive data-rich architecture providing insights
- Organizational design: from brick and mortar and physical servers / machines to cloud based infrastructure
- Human Capital: from traditional insurance roles to more data science, artificial intelligence and judgment based skills
- Inclusive insurance (micro): from non existing insurance offerings to the uninsured and/or traditional and long distance offerings, which are difficult to maintain, to digitized real-time solutions at the press of a button
- Trust: from an insurance industry historically lacking the element of trust, to building greater transparency and thereby gaining and retaining customers.

## **4 KEY PLAYERS IN PREPARING INSURANCE DISRUPTIONS AND DIGITIZATION**

### **BUSINESS / INDUSTRY**

Many organizations are pursuing the path of Digital Transformation to be able to cope with the level of digitization and disruption in their industry, and/or to keep abreast of the wave of change, and/or to get a competitive advantage in gaining new customers. Globalization in the context of a digital world, means that products and services can be offered and delivered to customers beyond the borders of the nation state. Business growth and competition means that companies wish to grow their market share and outperform their peers. Disruption is not limited to Insurance and therefore the broader digitization of industries, would attract new technologies, skills and innovation. This would require Insurers to adapt and transform in order to keep pace with the change within these markets.

### **GOVERNMENT**

Government plays a key role in providing the infrastructure and developmental environment, within which digitization can happen and proliferate. This includes the educational, energy, telecommunications, and investment landscape to grow knowledge, provide sustainable energy, build infrastructure and attract / provide funding respectively.

In addition, Government has to develop and implement public policy and programmes which can drive the infrastructure and economic development, as well as enable the growth of business (especially tech startups) and creating a conducive climate for investment (local and foreign).

### **TECHNOLOGY INVESTORS / VENTURE CAPITAL / ACCELERATOR**

All disruptive technology and innovation requires investment and funding as well as some form of accelerator/incubator to gain traction and prove viability and further growth and investment. A vibrant venture capital investment environment is required to offer the platform (whether at seed or serie stage) from which innovative technology can flourish. Such investment might be wholly generated locally, but ideally, foreign direct investment would offer international exposure and scalable opportunities. To this end, FDI is largely at the mercy of the state of the nation, the government fiscal and economic policies, and the extent to which funds can be expatriated.

## **REGULATOR**

If regulatory policies and institutions fail to adapt to changing conditions, markets can become distorted in ways that harm competition, slow innovation and ultimately deprive consumers of the benefits of technological progress. Policymakers all over the world, including many in Africa, are now recognizing these challenges and working to implement reform that will protect competition and consumers without impeding social and economic progress. (GSMA Intelligence, Mobile Economy 2017).

The three key principles for creating a new framework are as follows:

- a) Regulations and regulatory institutions should be redesigned around the concept of functionality, rather than legacy technologies or industry sectors.
- b) Regulation should be dynamic rather than static, focusing on ex post enforcement of broad rules rather than detailed, ex ante prescriptions.
- c) Reform efforts should be broad-based and bottom-up in the sense of re-evaluating from a clean slate the need for regulation, its goals and the means by which those goals are accomplished.

## 10. SNAPSHOT OF FUTURE DIGITAL INSURANCE

A DIGITAL INSURER EXAMPLE USING ARTIFICIAL INTELLIGENCE TECHNIQUES  
(extract from Paper by S Jegels – MIT Artificial Intelligence Course Sep 2018)

### Claims automation

The Claims submission process can be deploy a two factor AI process namely RPA (robotic process automation) and Decision Management to handle Claims. This aims to automate up to 85% of the Claims submission and adjustment process. Since Claims is the largest moment of truth for a Customer, insurers can further automate the process with Robots, by having a first line virtual Customer Care Center to take Claims calls. These Virtual Customer Care agents initiate the whole Claims submission process, by using NLP and sentiment analysis to administer the call, and then use cognitive computing based on the information submitted, as well as the client history, plus known fraudulent patterns, to perform an automated first level Claim submission and adjustment.

### Risk management / Underwriting

Risk management and Underwriting can further be automated by means of RPA using both TaaS (IoT as a service) to collect all wearables and device data, in addition to mining social media data, sentiment analysis, demographic, behavioural data, policy application and speech to text data, in order to develop a best-fit risk profile and/or pricing model for a new client/product or existing client in a cross-sell/up-sell opportunity. Then this Virtual underwriting assistant, would be able to identify additional or advanced risk attributes (especially within Health and Life insurance). With such an AI tool the risk is addressed pre-emptively and preventively. This reduces the risk likelihood, the subsequent claim and therefore improves loss prevention.

### New Policy issuance

Traditionally insurance has been sold through tied agents and brokers, but this is becoming a lot more disintermediated with the advent of direct and the ubiquitous nature of mobile telecommunications. Robotics can play a significant role in the area of sales by means of using Robot Sales Agents, with cognitive and behavioural computing mechanisms, using sentiment analysis and NLP to respond to new customer interests and queries. Furthermore, they can quicker identify broader customer needs, pain points, patterns and selling opportunities. Narrative Science can also be used to then issue a more Personalised Policy quotation.

## Underwriting

The corporate insurance division can utilize automated predictive modelling tools to enable low-touch, automated underwriting with respect to online policy applications for medium-sized businesses. This predictive model AI agent uses historic data, stored in a Big Data repository, upon which machine learning methods are applied to identify risks and deliver an underwriting result. This enables better customer selection and an improved customer centric offering.

Other examples include the use of AI in analytics with data science tools analyzing consumer and customer data, in order to determine cross sell and up sell potential, including churn reduction and better retention. This low-level AI intervention can yield a customer retention rate of up to 20 percent, and whilst the top line benefit may only show 2 percent gain, the real economic value can be hundreds of millions USD depending on the market size.

## **HOW TO PREPARE FOR AND ENABLE DISRUPTION WITH DATA SCIENCE AND MACHINE LEARNING**

Having an integrated data analytics capability goes a far way in being able to apply various digital tools, technologies, APIs and platforms, to drive structured disruption for the business.

Therefore, establishing a data science and machine learning capability can go a far way in order to make sense of the unstructured data. The following steps can be taken:

- Requisite data amount, type and collection needs to be determined for Claims, Underwriting, Customer Support, Organizational Management and Customer Experience in order to determine the historic and test case for machine learning.
- Hire a data science team with ML experience OR set up a dedicated team based on internal resources and expertise
- Establish an AI unit incubator which could work with a smaller subset of each of the areas for which AI and ML automation have been identified
- Use open-source widely spread libraries and frameworks for developing algorithms (NLP, Deep Learning, Neural Networks, Cognitive Computing, Image Analysis, Predictive Models, Computer Vision etc)
- Start the data collection and develop historic and test sets
- Run tests without any undue risks on the normal business and aim for quick wins
- Establish a Minimum Viable Proposition which can be scaled if successful

## **11. CLOSE**

As a close I would like to share some outcomes and results from Digital Disruption efforts.

- Automation can reduce cost of Claims journey by as much as 30%
- Up to 85% of Claims process can be automated
- Large insurers could nearly double their profits over 5 years by digitizing
- Cost of cyber breaches expected to reach 2trillion USD in 2019
- Smart insurers convert digital customers at six times the rate of their peers

The rapid rate of technological innovation means Disruption is becoming a new norm and all of industry is at the mercy of some type of disruption.

“Insurers should not underestimate the changes that digital will bring to their industry and the challenges they will pose. Neither should they overlook the significant short-term profit improvements that are within their grasp if they digitize their core businesses, nor shy away from innovating to be part of an exciting future that is unfolding for the industry. If they act decisively, they will be among its leaders.”  
(Mckinsey, Digital Disruption in Insurance, Mar 2017)