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Digitalization in Inclusive Insurance: Threat or Enabler?

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Abbreviations

Access to Insurance Initiative
Artificial Intelligence
Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung
Blockchain Technology
Centre for Financial Regulation and Inclusion
Consultative Group to Assist the Poor
Conférence Interafricaine des Marchés d'Assurances
Climate Risk Insurance
Disaster Risk Insurance
Global Facility for Disaster Risk Reduction
Deutsche Gesellschaft für Internationale Zusammenarbeit
Global Positioning System
International Association of Insurance Supervisors
Insurance Commission, Philippines
Mutual Exchange Forum for Inclusive Insurance
Microfinance Institutions
Machine Learning
Mobile Network Operator
National Insurance Commission Ghana
Point of Sales
Regulatory Framework for Promotion of Pro-Poor Insurance Markets in Asia
Small and Medium Enterprise
Short Message Service
Sub-Saharan Africa
Technology Service Provider
United States Dollar

1. Digitalization reshaping the insurance industry

The use of digital technologies and data is changing the entire business ecosystem. Major changes are the reconfiguration of the value chain¹, new arising competitors, pressure on prices and margins, the ease of cross-border transactions and an emerging mismatch of skills

to handle this change.² What are the key factors?

 New partners from other service areas come in, many of which powerful actors from the non-insurance or even non-financial world. Among these are the FinTechs that have the potential to add insurance to their services; technology platforms for comparison or sales; and BigTech disruptors like *facebook*, or *google*, telecommunication



Source: Swiss ReInstitute.

enterprises (or mobile network operators, MNO) and auto giants. They are offering new distribution avenues and service and support functions, using their client bases as powerful bargain. Notably, they are competing from other business spheres, bringing in disruptive business models, products and services. They bring technology at highest level, avail client data and many of them "have deep pockets"!

- Third-party service providers are becoming numerous and a somewhat powerful force as they are able to drive business. This is true for the Technology Service Providers (TSP) that are funded by powerful giants (e.g. globally active MNOs) and have experience in bringing the various partners together associated with the capacity to offer support related to technological solutions, product development and back-office administration.
- New technological forces and intelligent systems spreading out. New digital-based technologies such as the blockchain technology (BT, see Box 1 for terminology)) become available and can be used for many key functions in the insurance process (see later, Box 2). Artificial intelligence (AI) and machine learning (ML) for analytics and risk modelling, and robo advisors for sales and servicing are increasingly being used. Their use means leaving to base insurance industry processes only on historical data but to use data in real time and, especially, rely on events prediction (e.g. vehicle thefts, health problems and weather events).³ There is a vast scope for AI, for example in better risk assessment and pricing.
- **Big data and data analytics.** In the insurance market, its application is related to various processes, such as product offerings, risk selection, pricing, cross selling, claims prediction and fraud detection. Data from social media, for instance, can be used to offer customized products and combined with data from other sources to allow automated underwriting.⁴

¹ Swiss Re visualised digitalization in the insurance value chain in "Technology and Insurance, June 2017" on page 2, see **Annex 1**

² Digital transformation in Insurance, Trends and Impacts, Geneva Association, Dr. F. Sommerrock, 2016

³ FinTech Developments in the Insurance Industry, IAIS 2017

⁴ IAIS 2017

BOX 1. Key Terminology⁵

- Artificial Intelligence: Artificial Intelligence is "intelligence" that is not the result of human cogitation.
- **Machine Learning** is the modern science of finding patterns in your data in an automated manner using sophisticated methods and algorithms.
- **Big data**: Storage of data from different sources, in large volume and speed.
- **Comparators and robo advisors:** online services that provide automated, algorithm-based product comparison and advice without human intervention. May have more or less individualized answers according to information provided by the user. In addition to offering products, comparators and robo advisors are used for addressing concerns of right coverage through digital advice.
- **Data analytics:** The process of inspecting, cleaning, transforming, and modelling data with the goal of discovering useful information, suggesting conclusions and supporting decision-making.
- **Digitization:** The automation of existing manual and paper-based processes, enabled by the digitization of information; from an analogue to a digital format.
- **Digitalization:** The use of digital technologies and data (digitized and natively digital) in order to create revenue, improve business, transform business processes (not simply digitizing them) and create an environment for digital business, with digital information at core = the whole eco system of digital and technology-based applications.
- **Digital transformation** generally used as a synonym for digitalization or for using new technology.
- **InsurTech** (there are various definitions):
 - "new digital technologies and business approaches" or
 - "an insurance company, intermediary or insurance value chain segment specialist utilising technology to either compete or provide valued-added benefits to the insurance industry" ⁶ (both: Cenfri based on Sia partners) or
 - "the variety of emerging technologies and innovative business models that have the potential to transform the insurance business is referred throughout this document as "InsurTech"⁷ (IAIS).

2. Implications of digitalization on insurance business

Digitalization provides many opportunities for the insurance industry.⁸ The opportunities are related to all steps and features of the insurance process, and also, to certain technologies like mobile insurance or blockchain technology.

- Sales and distribution: New sales channels reach out to smartphone or internet-savvy client groups and to large client bases of BigTech firms and other aggregators.
 "Even business"
- **Data, analytics and storage:** Big Data makes more data available coming from a myriad of different sources such as social networks, purchases, car usage, telecommunication usage behaviour or crops planted. Improved analysis of client data allows for upselling opportunities, new kinds of rating methods and using telematics

"Every business will be a digital business in the future"

⁵ i-scoop; InsurTech for development, A review of insurance technologies and applications in Africa, Asia and Latin America, Cenfri and others, 2017; IAIS 2017; **Annex 2** presents more technology related terms (see IAIS 20175)

⁶ Cenfri, March 2017

⁷ IAIS, 2017

⁸ Adapted from M. Marwege, Munich Re

e.g. in motor insurance or special tariffs for diabetics. Storage on clouds allow easy global access and no storage capacity constraints.

- **Easier customer interaction:** Technology supported communication with clients is more convenient and reduces response times. Service providers are specialised on organising effective customer interactions e.g. by call centres or robo advisors.
- **More product diversity:** New products can be developed going at the edge of the boundaries of insurability as precise risk data is available, many of which complementing other financial or non-financial products or services.
- **Better portfolio quality:** Better and more data and innovative risk analysis techniques can improve portfolio quality, e.g. by combining internal and external data, such as data from satellites and drones, and using data from social media and from other third parties.
- **More cost efficiency:** Automatic enrolment and automation in claims settlement allows for rapid and less costly responses. Digitization is an enabler to reduce the current one third of premium needed to cover costs of acquiring and administering the business (a similar picture globally)⁹, whereas in inclusive insurance, with small coverages, the share of these costs related to premium is considerably higher. The potential for reducing costs of the blockchain technology is yet to be explored, in any case, what this technology is offering is indeed disruptive in many regards (see Box 2).

BOX 2. Opportunities for insurers by the blockchain technology (BT)¹⁰

To mention only some of the benefits and opportunities BT is seen as a potential game changer in the insurance industry:

- Unique digital identity management driving single audit trails and transparency
- Offers a decentralized infrastructure that reduces the reliance on centralized market infrastructure
- Reduces fraud e.g. by avoiding false billings in health claims
- Prevents risks associated with many players in the value chain or duplication of transactions
- Allows for digital claims management
- Eliminates paperwork in the business process
- Allows capture of timely and accurate big data resources
- Allows for data pooling

And thereby, creates the need for new regulation and controls.

Many of the innovations and start-ups are found in the ambit of distribution. Aggregators,

social networks, mobile and online distribution or comparison sites will be massively used in distribution, i.e. marketing and sales. The following overview is derived from a sample of 300 best-known and well-funded InsurTech start-ups. Out of 300 new ventures, 37% focus on distribution (see red part, right/top).¹¹

⁹ Geneva Association, 2016

¹⁰ Blockchain technology as a platform for digitization, implications for the insurance industry, Ernest and Young, 2016

¹¹ Technology and insurance: themes and challenges, SwissRe, June 2017



However, digitalization also comes with serious threats for incumbent insurers, both from a company perspective as well as in a sectorial perspective.¹²

- The **reconfiguration of value chains and push from new competitors** may leave traditional insurers out. The new competitors are powerful regional or global firms with deep pockets, sophisticated systems and their own client and data bases.
- FinTech or InsurTech companies set-up for advancing innovation are **specialised and can act much more quickly and innovatively**, while relying on latest technological innovations and in-house technology experts.
- Easier cross-border transactions and virtual offices bring **competitors from outside** of the region to local market places that do not have to fund local offices and are therefore having lower cost-structures.
- The **mismatch of skills** available in the incumbents seems to leave them at a disadvantage. There will be a digital talent gap, due to a lack of technology-savvy staff in the insurance industry.
- Many **InsurTechs are expected** to fail. Partnerships of insurers need to consider the associated challenges and potential damages to their reputation and portfolios. According to SwissRe, two thirds of the 300 start-ups they have looked at in their inventory were funded by insurers.¹³
- More and precise data will create **obstacles to insurability** for certain consumer groups, among those the currently unserved. Repercussions on clients or potential clients could be the exclusion of "the risky" or "the unconnected".
- The global connections, big data and strong reliance on technology will increase the threat of more and more massively striking **cyber-crimes**.

In summary, digitalization is both enabling business but also entails threats to traditional ways of doing business. Digitization has the potential to improve efficiency and underwriting results, to tap new business potential, to speed up business processes, and to make these more

¹² FinTech Developments in the Insurance Industry, IAIS 2017

¹³ SwissRe, 2017

efficient. There is a down-side of all this. While experts reckon that the "cyber insurance market" has a huge potential to grow, those that do not float with the current will sink. The IAIS has performed a scenario analysis from different perspectives (see Box 3).

BOX 3. Scenario Analysis by the IAIS¹⁴

At macro level - in a sectorial perspective - competitiveness, consumer choices, interconnectedness and ability of supervisor to oversee risks (within their regulatory perimeter or outside) are affected.

At micro level - business model viability, conduct of business and supervisory oversight are key topics. In terms of "who drives the business" the IAIS has looked at three different scenarios: (1) incumbents (that are traditional insurers) in control, or (2) not in control anymore, or (3) big technology firms squeezing out traditional insurers. However, in terms of scenario (1) related to the competitiveness of incumbents expected to be reduced, through acquisitions, corporate ventures or internal innovation initiatives, incumbents can achieve to stay in the front line for the consumer. More tech-savvy insurers with flexible structures and the capability of managing the information technology can be expected to remain in the market.

The changes due to digitization require insurers to take action in terms of

- opening up their minds and **identifying their own pathway to digital transformation**, which requires investing in capacities and mobilising significant moneys for this challenge;
- redesigning **IT infrastructure**, while considering contracts with large technology vendors,
- rethinking **business processes** in innovation labs, nurturing in-house teams specialised on innovation and digitization;
- considering **partnerships** with FinTech or InsurTech start-ups with stakeholders from other business sectors that offer client data;
- changing their **human resource policies** including creating or employing a new type of employee that is data and technology savvy;
- understanding what **client-centric behaviour** means in an increasingly digital environment, and for unserved client segments, making sure the inclusive insurance agenda is being considered.

3. How is digitalization affecting inclusive insurance?¹⁵

A recent inventory (see graph below) identified six different types of InsurTech applications that affect key aspects of inclusive insurance.¹⁶ Notably, the majority of InsurTechs are either a digital platform (55) or a technology-enabled partnership (another 56). In third place, new data analysis presents itself (24).

¹⁴ IAIS, 2017

¹⁵ This chapter is drawing strongly on Cenfri, 2017b

¹⁶ Cenfri, 2017b



Figure 1 – InsurTech applications (by InsurTech tracker of Cenfri, 2017b)

To which extent are the InsurTech innovations helping to solve inclusive insurance

challenges? The challenges identified by Cenfri, as presented in Figure 1, are lying both at the side of the providers as well as at the side of the consumers.

The following assessment will refer to the five dimensions as the typical constraints of inclusive insurance, and identify which of the challenges are addressed by InsurTech ventures or technologies in different combinations.



Figure 2 – Contraints of inclusive insurance (Cenfri, 2017b)

Challenge 1 "Lack of consumer information" is addressed by 42 of 157 InsurTechs

Alternative and digital data for improved knowledge of consumer for a better understanding of them. Enhanced data points are used to target marketing more effectively:

- **Cignifi, Sub-Saharan Africa:** Voice calls, mobile money transactions or social network interactions are used to assess consumer profiles and behaviours.
- **Zhong An, China:** Online consumer retail purchase history is collected to inform about a potential consumer's risk profile and premium pricing.

Alternative claims verification tools (15 initiatives)

- **IFFCO Tokio, India:** Electronic chips transplanted in livestock to verify the insured cattle.
- **Discovery Insure, South Africa:** Allowing consumers to upload pictures on their insurance platform to document claims.

Digital communication increases real-time access to high volumes of data. Digitalized data can be transferred via digital channels faster and in greater volumes than paper-based alternatives. Insurers can access this consumer data immediately and respond accordingly. The data can be communicated from different collection points (via the telematics technology):

- **ByteMoney, South Africa**: Mobile, Wi-Fi and Bluetooth networks transmit data in near real time and cut out the process of manual information inputs, which are time consuming and prone to error.
- **Yatis, India**: Value-added benefits, such as the provision of roadside assistance when the sensor alerts that an accident has occurred.

Application of analytics in early stages. Innovations based on machine learning and artificial intelligence are still less frequent and were found to be tested in some incubation pilots. They are used to predict a risk event and alert the consumer of the risk. For example, linking grocery purchase to predicting health crisis that will trigger the offering of a life insurance. Or using consultations at a health call centre to trigger the offering of health cover, while using that data to assessing the client risk. The use of data analytics is already more common in index-based insurance and related to Global Positioning System (GPS) data that tracks movements.

Challenge 2 "Inadequate access to consumer" is addressed by 88 of 157 InsurTechs

Technology enabled partnerships between insurers and MNOs, often involving a technical service provider (TSP). These partnerships are quite common across the globe, with more deployments found in Africa. They have proven most successful especially in Africa (41 initiatives), generally leveraging the client database and the airtime payment structure of a MNO. They often also involve the MNO's mobile-money subsidiary who then can also offer the mobile money wallets as payment service.¹⁷ A call centre agent is available to support servicing.

- **BIMA** is a TSP that has created mobile insurance platforms now active in 16 countries. It allows to access insurance via a consumer's mobile phone. Premiums can be paid by deduction of airtime credit or from a mobile money wallet.
- **MicroEnsure** is another globally active TSP reaching out to 20 countries and 42 million mobile insurance consumers. They start with a basic insurance cover that is provided to customers for free, where the MNO pays the initial premium for its clients and helps to enrol them. The models offer topping-up in the form paid products for hospitalisation cover, life or political violence insurance.

Digital platforms (on-line) are another widespread type of InsurTech. Such platforms appear in the form of on-line platforms also called comparison websites. They can be accessed by point of services, tablets, laptops or smart phones. They simulate a face-to-face interaction, and are complemented with query functions via online forms or even an online chat function.

¹⁷ A2ii Regulating Mobile Insurance, February 2017

Sales can be made digitally. The model allows for online servicing and premium payment, and even remote claims processing.

- Jagadiri, Indonesia offers direct sales by an insurer.
- **Bidu Brazil** is offering insurance policies from different insurers as a broker.

Challenge 3 "Different and new consumer needs" is addressed by 16 of 167 InsurTechs

Peer to peer models have been emerging, however, this is not yet a widely tested and applied model.

- TongJuBao, a Mutual in China.
- Grassroots Nairobi, Kenya, provides rural fire protection.
- **Teambrella**, to be launched worldwide, connects teams worldwide. Teams set the terms of the coverage, decide jointly on sales and servicing, and set the rules for new members and claims.

MNOs are engaging in partnerships to improve the quality of weather forecasts: By sharing location data with partner service providers (e.g. weather forecast providers, agribusinesses, insurers), MNOs could have increase the value of mobile services in rural areas, for example by providing highly localised forecasts and mobile weather index insurance products. In markets where GPS is not common due to the low penetration of smartphones, MNOs could leverage their existing technology to provide precise location data for granular, localised weather forecasts.¹⁸

Product design through the bundling of services in finance. Bundling of insurance with other financial services has been a common approach, in the past mainly with credit and banks or microfinance organisations (see also Box 4). Innovative ways of bundling are using more elements.

BOX 4. Insurance plus health advice, savings and loan option for mobile money customers¹⁹ Kenya's Hello Doctor, together with Commercial Bank of Africa and Cannon Assurance offer a health solution package to Safaricom's M-Pesa customers called Sema Doc. Subscription service delivered via mobile phone. Set of tools that are not limited to insurance to manage health risk remotely.

- **Insurance:** Hospital cover by Cannon Assurance, provided on a digital interface via mobile phones and includes the benefit information as well as the terms and conditions of the cover.
- Advice: 24-hour access to doctors via text or call (one-hour response time) to receive medicine prescriptions over the phone. Twice a day, customers receive health tips by text message.
- **Savings:** M-Pesa opens a health account when individuals subscribe to Sema Doc for **health-related savings** to pay a monthly Sema Doc subscription fee and to make payments at health facilities.
- **Loans:** Subscribers can apply for health loans at favorable repayment terms paid to a health facility directly.

¹⁸ mAgri Weather forecasting, and monitoring. Mobile solutions for climate resilience, GSMA February 2016
¹⁹ Cenfri, 2017a

Challenge 4 "Consumers inexperienced with formal finance"

Generally, digital platforms and technology-enabled partnerships have increased the information available and easily accessible on the web. According to the Cenfri 2017, only 14 initiatives across the globe are tackling the issue of inexperienced consumers.

Provision of free insurance products ("loyalty insurance" on the back of a SIM Card and airtime purchased to test a product (also called "loyalty insurance") has been a strategy in many technology-enabled partnerships across the globe.²⁰

"Are providers designing these

interactions to also support

consumers that have little to

• Comparison platforms providing information, e.g. Remote personalised support by brokers, call centres and chat functions (see Box 5).

BOX 5. India, Comparison platform²¹

Easypolicy in India is an insurance comparison platform, seeking to simplify advice and to educate consumers around insurance. It can be accessed through the web. Consumers can also download a smartphone application. Easypolicy holds information on life, automotive, health and retirement policies from insurers across India. Consumers enter their details on the platform, which is analyzed in real time; and the most relevant quotes are fetched from the database. They offer advanced search, comparison and filter functions to empower customers to make informed decisions. In cases where a consumer needs information, a "chatbot" (i.e. a robot that is able to chat) called RealAdvice enables an individual to get more information 24 hours a day and to assist with the navigation of the quotes. Tools and calculators assist along the process. Call center agents complement the sales process in case more support is needed.

Interactive Voice Recordings: Technology allows for important new elements, such as addling an element of consumer education by interactive voice response technology (see Box 6).

BOX 6. PT Asuransi Allianz Life Indonesia and Telco Indosat Ooreedoo (IO) SEKOCI product 22

- Voluntary term-life product based on standard microinsurance product
- Allianz partnering with IO Telco's Dompetku e-money service
- MFI acting as agent activating SIM card and insurance policy, helping insured with claims processing
 - Coverage for MFI clients: USD 384 (life) USD 1,923 (accidental death)
- Premium per year 9 USD added to monthly airtime payment of 9 USD
- Customer education by digital financial literacy messages through Interactive Voice Response technology

²⁰ Regulating Mobile Insurance: Status and Regulatory Challenges, Short Briefing Note, Access to Insurance Initiative (A2ii), February 2017

²¹ Cenfri, 2017a

²² RFPI Asia Fact Sheet 2017

Challenge 5 "Constrained business models by high costs": 64 initiatives

Leveraging digital infrastructure - mobile phones, tablets and laptops or PCs - can reduce the marginal cost of insurance delivery. A major entry point for cost-efficient insurance provision are digital platforms which TSPs have developed for insurers (41 of these initiatives). These examples embark on existing infrastructure or infrastructure that is paid for by another entity. Such models generally include a digital payment channel such as airtime or mobile money wallets.

- **BIM Apeseg**, Peru; or digital servicing (Hejin, China)
- **Saldo Mexico** is a digital platform that uses the blockchain technology to verify transactions and to reduce consumer fraud.
- Afrisure, Zimbabwe where index-based insurance providers leverage satellite data to enable the provision of agricultural insurance at scale.

Technology can help to close the insurance gap in disaster risk insurance (DRI), sometimes also called Climate Risk Insurance (CRI) (see also Box 7):

- New ways of data collection and analytics are feasible and affordable for insurers and for government
- New industry of service providers coming up to collect, analyze and sell data
- New ways of informing threatened populations and future clients are emerging: internet, SMS, messaging, Voice Recordings
- Digitalized client interaction is quicker and less costly
- Cost-reductions of satellite data in index-based insurance

BOX 7. Technology in Disaster Risk Insurance (DRI)²³

- Satellite data is becoming more accessible: such data has been largely out of the reach of most, due to cost, a lack of accessible software, and low capacity in a lot of countries that need the data most (see **Open Data for Resilience Initiative** OpenDRI). The partnership is working to power open source technology and geospatial data sharing platforms and has helped over 100 million people gain access to risk information.
- **Code for Resilience** is connecting local technologists and disaster risk experts to create civicminded digital and hardware solutions to identify and reduce the risk posed by natural disasters.
- Projects that have a disruptive impact in the space of risk assessment: **Floodtags** collects data through Twitter for on-the-ground flood observations in the Philippines.
- **Risk visualization tool** to help decision makers to get information for risk-informed choices. *ThinkHazard*! allows users to quickly develop risk profiles on 8 different types of hazards. All information is open source and unrestricted by licenses which enables users to download all data freely. *ThinkHazard*! generates a non-technical interpretation of global hazards, empowering non-experts to determine the level of natural hazards in their locality and encouraging greater incorporation of risk management into project planning and design.
- In several interventions on **climate risk insurance** mobile phones are playing a role by providing pay-outs through mobile payments, or by providing weather information (for instance the R4 in Senegal), sales and communication (for Kilimo Salama, now Agriculture and Climate Risk Enterprise Ltd./ACRE Africa, the partnership with Safaricom was key). Mobile phones also support the process of geo-localisation of clients and to check damages.
- The World Food programme is using a **food voucher system that is distributed by mobile phones** in the case of natural disasters to improve food insecurity in rural communities.

²³ World Food Programme, Food Security Climate Resilience Facility, 2016; and GFDRR

Cost-effective outsourcing arrangements by digital data and automation. Digital platforms and new data analytics allow for cost saving and efficiency enhancements through integrating the entire product lifecycle from sales to servicing, premium payment and claims management. Certain functions of the value chain may be automated or even outsourced. Data can be stored on internet cloud systems to make them easily accessible remotely. Analytics reports can be customised and fed back into product design and servicing elements. Premium payments are registered and claims pay-outs are triggered automatically. Insurers can pay as they use the service, or for a certain period.

• **dotXML, South Africa** provides end-to-end software solutions to insurers. It has reduced the need for human involvement and automated the links along the product lifecycle.

Developments in the digitalization of financial services have important potentials for

inclusive insurance. FinTechs are driving the digitalization of microfinance and small and medium enterprise (SME) financing. For example, in SME lending, alternative streams of SME lending have been emerging, such as various forms of non-bank digital lenders (market-place lenders, global digital corporates similar to *facebook*, mobile database lending platforms, or supply-chain finance platforms as in the example below). Mobile database lending platforms are using mobile and mobile e-money services transaction history to score the creditworthiness of first-time borrowers; many such deployments are concentrated in Sub-Saharan Africa (SSA) as a leading region.²⁴ An example of a supply-chain finance platform is presented in the business model example from RFPI Asia (see Box 9).

BOX 9. Supply Chain Insurance Business Case documented by RFPI Asia:²⁵

Pakistan EFU Life and Planet N: Hospital cash and term life coverage for SME retailers

- Six different packages: USD 1000 to 5000, the underlying core service is ordering stock or loan
- Two tech partners are involved: Order Call (OC) where retail shops order their stock in charge of enrolment and sales, Tez Financial Services provides loans transferred to mobile accounts, collects insurance payments from OC
- Started in July 2017: 3,000 retailers enrolled, future: enrollment of 25,000 retailers nationwide, and converting retailers into insurance distributions

In summary, the above examples show that a myriad of different digitally supported solutions have been emerging where inclusive insurance is or can be integrated.

- In terms of technology types and partners, **mobile insurance partnerships**, often driven by a TSP are dominating in digital platforms. Many are concentrated in SSA, but also becoming more prominent in Asia (e.g. Pakistan, Bangladesh, Philippines, and Thailand).
- The technology **of blockchain applications** are still in an explorative stage with few deployments and still a lack of information how it is applied and where. However, in principle, the potential to offer insurance without a middle-man presents important potentials and suggests that this technology may expand in future.
- Other insurance solutions, such as those needed by a growing elderly population, i.e. digitally supported **micro pensions**, are slowly making headway in the international

²⁴ Digital Financial Inclusion in Sub-Saharan Africa, Roundtable Proceeding, 6.7. 2017

²⁵ Cenfri, 2017a

debate. However, the available information is scarce, and also applications are in initial stages.²⁶

4. Regulatory challenges and responses

4.1 Challenges for supervisors

Supervisors under pressure. Supervisors are under pressure to react because providers from outside the insurance sector are pushing business. The new stakeholders, as well as technology-supported insurance provision and a more complex insurance value chain entail challenges for the supervisor that are requiring innovative regulatory responses as well as adapted supervisory systems.

The most common types of technologies/InsurTechs (see Box 8) are raising immediate regulatory concerns in various jurisdictions due to the high number of deployments and the millions of clients to which they are reaching out.

BOX 8. Most Common types of InsurTechs²⁷

Type 1 - Digital platforms are appearing in the following forms, and offering a variety of services:

- Information and sales (19 initiatives): Digital brokers assisting consumers to compare and chose
- Servicing (11 initiatives): Digital servicing including claims management
- Automated back-end platforms (32 initiatives) for technology-based administrative support

Type 2 - Technology-enabled partnerships are appearing in the following forms:

- Mobile Network Operators and Technical Service Provider are the most common models (50 minsurance initiatives)
- Facilitating distribution but also assuming other functions in the value chain such as product development, back-office administration and servicing
- Voluntary term-life product based on standard microinsurance product

Mobile insurance challenges. InsurTech tracking efforts as undertaken by Cenfri, or A2ii, SwissRe or certain TSPs reveals that the bulk of innovation is taking place within technology enabled partnerships and digital platforms. Mobile insurance is the key product and widespread in SAA, but there are signals of expansion in Asia. This expansion is driven by MNOs, but also by several international TSPs that have successfully been implementing minsurance in other regions (such as MicroEnsure, BIMA or StoneStep).²⁸ Related to mobile insurance, A2ii has identified that major challenges are related to **conduct of business** issues, among others:²⁹

• Disclosure to the client may not be effective. For example, when airtime as payment mechanism is allowed (payment by automatic deduction), the MNO client may not be aware that he is actually paying for an insurance coverage.

²⁶ Microinsurance Centre at Milliman, 2018

²⁷ CENFRI, 2017a

²⁸ A2ii, 2017a

²⁹ A2ii, 2017a

- Regulation of the TSPs, some of which are performing insurance functions. Some are regulated as brokers, others as general agents, whereas some only play a role in non-insurance outsourcing functions.
- Existing strategies in case the partnership models fail.
- When electronic contracting is allowed, ensuring a sufficient level of transparency for the client.

Various form of digital platforms have been emerging. Certain platforms are performing insurance functions, others are not as presented in Box 6, which shows 19 initiatives that are also selling insurance. To which extent such platforms are being used by the inclusive insurance client is unclear yet, however, the "unserved" are the primary target of these providers. Important questions for supervisors here are:

- Is this a means the typical inclusive insurance client will use? If yes, are clients sufficiently literate to use them effectively? What new consumer education and protection measures are necessary?
- Will the consumers think comparison platforms are neutral comparators which in fact, they are not?
- Rules for partnerships when non-insurance providers are involved.

Multiple regulatory domains are impacting digitally supported insurance provision. Supervisors are challenged with a product and channel that is produced and sold in an environment, that is partly outside of their traditional ambit. Therefore, they need to share information and cooperate with other authorities, to make sure they can consider the respective laws, regulations and supervisory systems, and integrate them with the insurance law and regulations, mainly intermediary regulations, but also outsourcing regulation, or microinsurance regulations. Among these other regulatory ambits are:

- Overall conduct of business and consumer protection provisions
- Banking and payments, FinTech
- Telecommunication
- Data protection
- E-commerce
- Trade, service provision, outsourcing

Other regulatory challenges (see some more in Box 9):

- **Good practices are scarce.** Despite some regulatory innovations in terms of processes, and some jurisdiction already having regulation mobile and digital insurance,³⁰ there are no role models available yet.
- **Current performance monitoring instruments are insufficient.** Supervisors do not have the systems in place to easily track business performance of the new business models. Traditional reporting systems to the supervisor is not sufficient to capture important data related to digitally supported insurance provision and platforms, e.g. efficiency of consumer responses by a robot; or the claims ratios when insurance is sold electronically by a mobile phone, or via a platform. When a party under another authority is involved this party will not report to the supervisor, or reporting by insurer may not capture sufficient data.

³⁰ More insights on regulatory issues related to mobile insurance will be provided by the full study of A2ii forthcoming later in 2018

• **Supervisors should increase their capacities.** Supervisors should fully understand the situation and implications of technological innovation. They need to have sufficient capacities, capabilities and systems in terms of on- and off-site monitoring, and related to specific questions such as effectiveness or the new advice models, understanding the risks related to these business models (e.g. a partner dropping out), and the options for them to allow exemptions and have these pilots under their radar.

BOX 9. Regulatory topics related to digitally supported business models in inclusive insurance

- Regulation of platforms and TSPs
- New partnership models where for some stakeholders the regulatory space is unclear
- Data protection of client data and against loss of data
- Privacy issues
- Incorrect advice when automated
- Regulation of call centres (India does this)
- Records retention difficult (SMS storage, threat by cyber-attacks)
- Errors in robo advice algorithms that leave certain consumers out, or reject consumers
- Regulating providers outside of the national jurisdiction

4.2 Regulatory responses

Pressure from changes in the markets related to FinTechs and the digitalization of insurance more generally is spurring regulatory innovations. Some new regulatory approaches have been emerging.

The "Sandbox" approach as a temporary bespoke regulatory treatment.³¹ The Sandbox approach intends to create a safe space to enable innovative ventures while limiting the size and scope of the risk to enter the market. It has the following features:

- Explicit and transparent entry criteria for applicants, each venture is assessed with tailored safeguards, while each Sandbox application can be different.
- Temporary regulatory tools are reduced licencing requirement, allowing for exemptions, letter of no objection, active engagement of the supervisor, agreeing on appropriate safeguards.
- Communication tools for the pilot between the supervisor and the applicants, such as an advice unit, innovation hub, and innovation workshops.
- The Sandbox experiences and lessons drawn can later be used to inform amendments of the regulatory framework.
- Examples are found at Bank Negara Malaysia, Financial and Financial Conduct Authority United Kingdom

Another regulatory approach is the "Test-and lean" approach that is also based on exemptions. Test and learn applies the same principle as the Sandbox approach, but is less explicit, transparent and accessible to all potential applicants. Here, the provider approaches the regulator unprompted and negotiates exemptions of the pilot on a case-by-case basis. Examples are the National Insurance Commission Ghana, or the Insurance Regulatory Authority Kenya.

In mobile insurance, and generally in digitally supported insurance, a number of new regulations are under way, some of which were already adopted. Box 10 presents an essence

³¹ Regulating for innovation, How to encourage responsible market innovation. Cenfri, 2017

of the challenges related to mobile insurance and the regulatory issues. Several jurisdictions have been working on specific regulations for mass, micro and digital insurance:

- **CIMA West-Africa:** is planning to issue a mobile insurance regulation and digital insurance regulation
- **Indonesia:** is planning to issue microinsurance and digital financial services regulations
- Ghana: has issued a mobile insurance market conduct regulation in November 2017
- India: has regulations that cover call centres and comparison websites

BOX 10. Regulatory topics related to digitally supported business models Some highlights of the topics that are being regulated by these regulations: ³²

- Differentiated product approval: that include checking on the use of the mobile phone, the approval of partnership or service level agreements (Kenya, Tanzania) and approval of service level agreement, allowing only simple products to be sold, prescribing product standards (Ghana, Kenya)
- Intermediaries: Types of "platforms" and the insurance-related functions (Ghana)
- Consumer protection issues; Disclosure/transparency to client, cooling-off periods
- Allowing electronic contracting for mobile insurance

5. Ideas for the way forward and conclusions

Technology and digitalization – **does it come as a threat or enabler? Simply said, it is both.** The challenges of digital transformation of the insurance business are taking place at many fronts and will be deeply revolutionizing insurance provision. In the same way, these developments will impact inclusive insurance provision. The following section is addressing issues the partners in the MEFIN Network may be concerned with.

Why digitalization is considered a "disruptor"?33

Changes are not only technological: Digital marketing, digital distribution, digital IT architecture, and digital attackers, as well as digital technologies will sooner or later affect each and every insurer and distributor. Digital technology is a catalyst. What will be changing is the way pricing is done, revenues are generated, operations are done, customers are approached; as well as system's efficiency and organisational models. Importantly, the ecosystem of insurance will cut across traditional industry boundaries.

New competitors: In a world where data and analytics are the key, and powerful players are entering, staying competitive requires to understand these dynamics and looking for strategies to cope with these developments. For example, the Chinese e-commerce giant Alibaba is now owning one of the largest FinTechs, with products that include insurance.

³² A2ii, 2017a

³³ Digital disruption in insurance, Digital/McKinsey, March 2017

What will insurers in MEFIN countries be facing?

Some of the changes coming with the digitalization of insurance mentioned in chapter 1 are already happening; others are more difficult to predict. What is definitive: insurers should learn more about these changes and watch their environment carefully.

- New partners for insurers and third party service providers: Certain digitally supported business models are already present in the MEFIN countries. Mobile insurance is a fact, with partnerships of insurers with MNOs and TSPs being implemented. The same is true for distribution partnerships with FinTechs that are adding insurance to their other financial services. This is an area where MEFIN partners have been involved and could engage more to stay in the market, expand and be more competitive at the local level.
- New technological forces and intelligent systems, and big data: These systems are available and already being tested by large insurance companies, or by the non-insurance players entering this field. Embarking on that path requires investments in manpower, systems and processes and a respective corporate vision. As local presence is not required in digitalized models. New competitors from outside the region may be capturing local market shares. Big data and machine learning will be unavoidable. In 500 cases of innovations identified by Digital/McKinsey, 20% are related to that technology, making this the second largest trend, while 21% of applications were related to software as a service/cloud.³⁴ MEFIN insurers should consider what this means for their corporate priorities and policies.
- Climate Risk Insurance will be relevant from a global and national developmental perspective: CRI is highly dependent on technology as for example remote sensing data delivered through satellites are required in order to calculate the premium and the trigger/threshold of the pay-out. Digitalization is here a common practice and risk carriers as well as distribution channels need to catch up with the enormous technological progress brought by InsurTech companies. As CRI will be mostly relevant for farmers as well as SMEs in rural areas awareness campaigns on risk protection and the use of available technology are crucial in this respect. Furthermore, the contribution of the state in organizing, funding and implementing nationwide financial literacy campaigns is instrumental.

What can be the role of insurance associations?

Supporting knowledge generation and dialogue: Associations could help to advance the frontier of the level of knowledge of incumbents (their members) related to digitalization in insurance by increasing their own knowledge and disseminating important facts and lessons, facilitating exchanges of ideas and experiences among industry players and regulators; and organizing sector working groups.

³⁴ Digital/McKinsey, 2017

Fostering digital insurance literacy: Associations should promote the public good of knowledge related to digitally supported insurance. They should engage in promoting insurance education with a focus on digitalization and the effective use of technology for broad population segments. They should identify knowledge gaps of different consumer segments, spot the critical topics in consumer abuse (e.g. on transparency, opting out of a mobile scheme, automatic enrolment and airtime being used up), and help teaching the public

"Only 14 of 157 initiative address the challenges of insurance delivery to inexperienced or illiterate consumers"

about pitfalls and opportunities. In summary, they should play a pro-active role in pushing insurance information as a public good, e.g. by integrating this topic in national financial education strategies, or adding the topic to a website/information platform (see the Brazilian example in Box 12).

BOX 12. The example on an industry association and its engagement to digitally support business models³⁵

CNSeg is working on topics such as Digital Risks, Cyber/Information Crimes and Individual Rights Permission/Data protection/Information Security. They have been working on a complete revision of partners and roles, including the challenge of being present in a multiplicity of channels (especially digital) and the obligation of directly relating to, and doing business with the final user in a continuous way;

They are considering "digital" as the leveraging factor and on the capacity to identify and internalize new technologies that are relevant, seeing them increasingly as an END as opposed to a MEANS (with them being, paradoxically, increasingly more fundamental as MEANS as well). CNSeg has been working on improving their capacity to compete and/or associate with/partner up with new players and new business models, such as 100% digital companies, or online brokers, financial service providers, digital banks and FinTechs. For example:

- Created three working groups: one for digitization, one for risks management and one for market intelligence
- Created a new section: CnsegPar to work with other industry associations and to capture important start-ups.
- Engaging in improving public information including digital literacy and new channels

What are the implications for insurance supervisors?

Changes occurring in the markets require regulatory capacity and action. Technological changes will be revolutionizing product design, distribution channels, servicing, administration, risks assessment, cost structures and the landscape of stakeholders involved in the value chain. This will impact the sector, the providers, and the consumers. As a matter of fact, regulatory approaches and supervision will need to change. Even though it is difficult to predict what the exact implications of digital disruption will be, especially in the medium and longer-term, the following observations can be made on immediate changes that are already happening, or can be expected, each having a clear impact on the related regulations, supervision or approaches required:

³⁵ CNseg Brazil, Annual Report 2016 and 2016

	Γ
CHANGES IN MARKETS	REGULATORY /SUPERVISORS RESPONSE (EXAMPLES)
Increasing number of	Approval of partnership model/pilot
pilot projects of insurers and FinTechs, InsureTechs or MNOs	Allowing for but watching implementation closely (test and learn on a case-by-case basis, or developing and implementing a Sandbox approach)
InsurTech start-ups	May require new licensing criteria and procedures, as well as supervision
	Supervisory capacity to understand how they are functioning and where the risks are
Insurance happening at the intersection of	Ensuring that multiple jurisdictional oversight does not allow for gaps, overlaps or regulatory arbitrage ³⁶
various authorities	Requiring coordination with telecom authority, banking authority, data protection supervisor, engaging in a joint Memorandum of Understanding, running an inter-governmental committee
New distribution channels and support services	Assess whether current regulation is sufficient of various types of platforms, call centers, and outsourcing arrangements, consider to adapt regulation and supervision
Dealing openly with the myriad of aspects digitalization entails	Opening the minds for allowing but controlling innovations, new partnerships and extracting lessons, seeking solutions for proposals from the industry
	Increasing the capacity and knowledge of staff, systems and human and financial resources to these challenges
Consumer protection and inclusion	Allowing innovations but watching closely the performance to avoid disturbances in the sector by collapses of pilot schemes or a lack of transparency, ensuring that new models are client-centric offering effective insurance solutions to the consumer
	Understanding the implications of digitalization on inclusive insurance in more depth

What are the implications for MEFIN Network, MEFIN Inc. and PPD 5, what can be next steps?

Facilitate better coordination and dialogue between the various stakeholders. There is a need for improving the interaction of key stakeholders – traditional stakeholders and the newly entering ones – such as channels, platforms, insurance companies, TSPs, associations, customers and supervisors. Knowledge generation and dissemination on the potentials and threats of the new technologies, roles of stakeholders are also important. Dialogue and efforts to draw lessons should look at Asia but also consider experiences and models from other regions in the world where relevant, e.g. in mobile insurance (Africa), disaster or climate risk insurance (Caribbean).

Seek agreement on certain priority topics and perform a deeper analysis, for example:

³⁶ Adapted from A2ii, 2017c

- **Big data:** Understanding more clearly what is the impact of big data on products, customising, claims; and what opportunities and threats this entails for incumbent insurers and for supervisors.
- **Digital insurance education:** What can be done, is it necessary to improve insurance education about digital aspects by the various stakeholders?
- **Business models:** Analysis of the new business models that are found in practice, or are feasible in the medium term for MEFIN partners, and collecting information on current performance (in MEFIN countries and from other regions), for example on partnerships with TSPs or FinTechs.
- **Technologies:** Develop a study on Artificial Intelligence and the role for inclusive insurance, in particular for product customization, and/or on the potential of blockchain applications for inclusive insurance.
- **Consumers in a digital environment:** Analysing the influence of pricing on consumer choices, and which innovative marketing strategies or consumer incentives are ensuring clients would understand the product, and stay insured. Analyse how stakeholders can make sure that digitalization is user-friendly for the inclusive insurance market.

Annex 1 - Digitalization in the insurance value chain



Virtual value chain

Source: Swiss Re Institute, Swiss Re 2017

Annex 2 - Glossary

Term/Concept	Explanation	Author Source
Big Data and Data Analytics	Big Data is the term used for the storage of data from different sources, in large volume and speed. Data Analytics is the process of inspecting, cleaning, transforming, and modelling data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making.	IAIS, 2017
Artificial Intelligence and Machine Learning	Machine Learning is the modern science of finding patterns in your data in an automated manne r using sophisticated methods and algorithms. Artificial Intelligence is "intelligence" that is not the result of human cogitation .	IAIS, 2017
Blockchain	A particular type of data structure used in some distributed ledgers which stores and transmits data in packages called "blocks" that are connected to each other in a digital 'chain'. Blockchains employ cryptographic and algorithmic methods to record and synchronize data across a network in an immutable manner.	World Bank 2017
Comparators and Robo advisors	Online services that provide automated, algorithm-based product comparison and advice without human intervention . May have more or less individualized answers according to information provided by the user. In addition to offering products, comparators and robo advisors are used for addressing concerns of right coverage through digital advice.	IAIS 2017
Distributed Ledger Technology (DLT)	 DLT refers to a novel and fast-evolving approach to recording and sharing data across multiple data stores (or ledgers). This technology allows for transactions and data to be recorded, shared, and synchronized across a distributed network of different network participants. Distributed ledgers' (DLs) are a specific implementation of the broader category of 'shared ledgers', which are simply defined as a shared record of data across different parties. A shared ledger can be a single ledger with layered permissions or a distributed ledger, which consists of multiple ledgers maintained by a distributed network of nodes. 	World Bank 2017
InsurTech (I-Tec)	"an insurance company, intermediary or insurance value chain segment specialist utilising technology to either compete or provide valued-added benefits to the insurance industry"	Cenfri 2017 (Sia Partners, 2016)
	"InsurTech refers to tech companies that: (1) are in their early stages of operation; (2) deploy specific tech-led innovation in activities within the insurance value chain; and (3) leverage different forms of funding including, but not limited to, venture capital.	Swiss Re (June 2017)
Technical Service Provider	Service provider supporting mobile insurance models, or other outsourcing arrangements, can hold a license as intermediary or only be licensed by another authority, sometimes also called outsourcing agents (South Africa)	

Annex 3 - References

Documents

Organization, Date, Author	Title
A2ii, February 2017	Regulating Mobile Insurance: Status and Regulatory Challenges, February 2017, Short Briefing Note, Access to Insurance In8tiative (A2ii)
A2ii, May 2017	Douala Conference Report
A2ii, September 2017	Supervising InsurTech – Consultation Call 24
CENFRI, FSD Africa, UKAid; March 2017a	InsurTech for development, A review of insurance technologies and applications in Africa, Asia and Latin America, Focus Note
Cenfri, FSDA, UKAid, October 2017b	Regulating for innovation, How to encourage responsible market innovation.
Digital/McKinsey, March 2017	Digital disruption in insurance
Ernest and Young, 2016	Blockchain technology as a platform for digitization, implications for the insurance industry, Ernest and Young, 2016
European Investment Bank (EIB), July 2017	Digital Financial Inclusion in Sub-Saharan Africa, Roundtable proceedings, 6.7.2017 Berlin
Geneva Association Feb. 2016, Dr. Fabian Sommerrock	Digital Transformation in Insurance, Trends and Impacts
GSMA February 2016	mAgri Weather forecasting, and monitoring. Mobile solutions for climate resilience,
IAIS, February 2017	FinTech Developments in the Insurance Industry
Microinsurance Centre at Milliman	Newsletter - Q3 & Q4 / 2017
Swiss Re, June 2017	Technology and insurance: themes and challenges
World Bank Group, 2017	Distributed Ledger Technology (DLT) and Blockchain, FinTechn Note 1
World Food Programme, Nov. 2016	Food Security Climate Resilience Facility

Websites Consulted:

IAIS Fin Tech Paper

https://www.reinsurancene.ws/insurance-supervisors-must-understand-adapt-fintech-iais/

Cenfri I-Tec deployments tracker

<u>HTTPS://I2IFACILITY.SHAREPOINT.COM/:X:/R/SITES/PUBLIC/_LAYOUTS/15/WOPIFRAME.ASPX?S</u> <u>OURCEDOC=%7B06B4106E-E064-4700-8B45-5B5EC12F6946%7D&ACTION=VIEW</u>

Cenfri InsurTech Note

http://cenfri.org/documents/InsurTech%20for%20Development/InsurTech%20Focus%20Note%20Engli sh.pdf

Gartner

http://www.gartner.com/newsroom/id/3487817

M. Marwege, Munich Re Expert

https://www.munichre.com/topics-online/en/2017/11/digital-transformation

AXCO Blogs - will InsurTech...

http://axcoinfo.passle.net/post/102ebrj/will-insurtech-rock-the-boat-of-the-insurance-industry

Terminology by i-scoop

https://www.i-scoop.eu/digitization-digitalization-digital-transformation-disruption/

Munich Re and Digitalization

https://www.munichre.com/topics-online/en/categories/digitalisation

GFDRR

https://www.gfdrr.org/using-technology-stay-ahead-natural-disaster-risk

SemaDoc Kenya

http://www.nation.co.ke/health/New-partnership-to-share-health-advice-on-phones/3476990-3893144-fgotavz/index.html

University of Georgetown: Global Policy Roundtable on Digital Micropension Inclusion <u>https://ghd.georgetown.edu/pinBox%20Solutions%20roundtable</u>

CNseg Brazil

http://fenaprevi.org.br/cnseg/servicos-apoio/noticias/cnsegpar.html http://voceconsegue.cnseg.org.br/

Food voucher system distributed by mobile phones in the case of natural disasters <u>https://indexinsuranceforum.org/sites/default/files/Factsheet_FoodSecure%20BB_KB.pdf</u> <u>http://www.cashlearning.org/downloads/resources/guidelines/ACF-Cash-Based-Intervention-Guidelines%20SPANISH.pdf</u>

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