Regulatory Challenges in a digitally disruptive era in Insurance .

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Digital Transformation in the Insurance space

What is Digital Transformation ?

- Digital Transformation is a term used so frequently and variously that it is commonly misunderstood. Digital Transformation is capitalizing on the power of technology to revisit business models, acquire customers to new channels and create essential user experiences. Insurer that digitize can change slow, error-prone and expensive processes to increased speed, accuracy and cost efficiency.
- Digital Transformation delivers tangible and intangible value across the insurance value chain, with specific benefits in six key areas :
  - Cost reduction
  - Customer experience enhancement
  - Speed to market
  - Sales productivity
  - Underwriting efficiency
  - Claims efficiency.

CORE REASONS WHY DIGITAL DISRUPTION IS ESSENTIAL IN INSURANCE SECTOR

1. Efficiency in Process

- Automation in the repetitive task in processing claims, underwriting, or policy issuance
- Speeds up underwriting by analyzing data to assess risk, make faster and accurate decisions for policy issuance

2. Enhance Customer Experience

- 24/7 Customer Support Chatbots (Virtual Assistants) can handle queries, and process simple request like Claims Status or Renewals
- Offer personalized policies, based on the real-time data, such as lifestyle habits, health metrics, driving data, etc.

3. Fraud Detection & Risk Management

- Identify patterns from historical data, customer behavior, cross referencing external database and indicate, if any fraudulent activity in the claims
- Forecast risk by analyzing structured and unstructured data (e.g. social media, sensor data and industry trends) to assess the risk to set more precise premium and avoid high risk situations

4. Cost Reduction

- By automating tasks likes document verification, claims processing and customer interaction, AI can significantly reduce operational costs
- In underwriting, AI can assess multiple sources of data more quickly, reducing labor cost and errors.

5. Competitive Edge

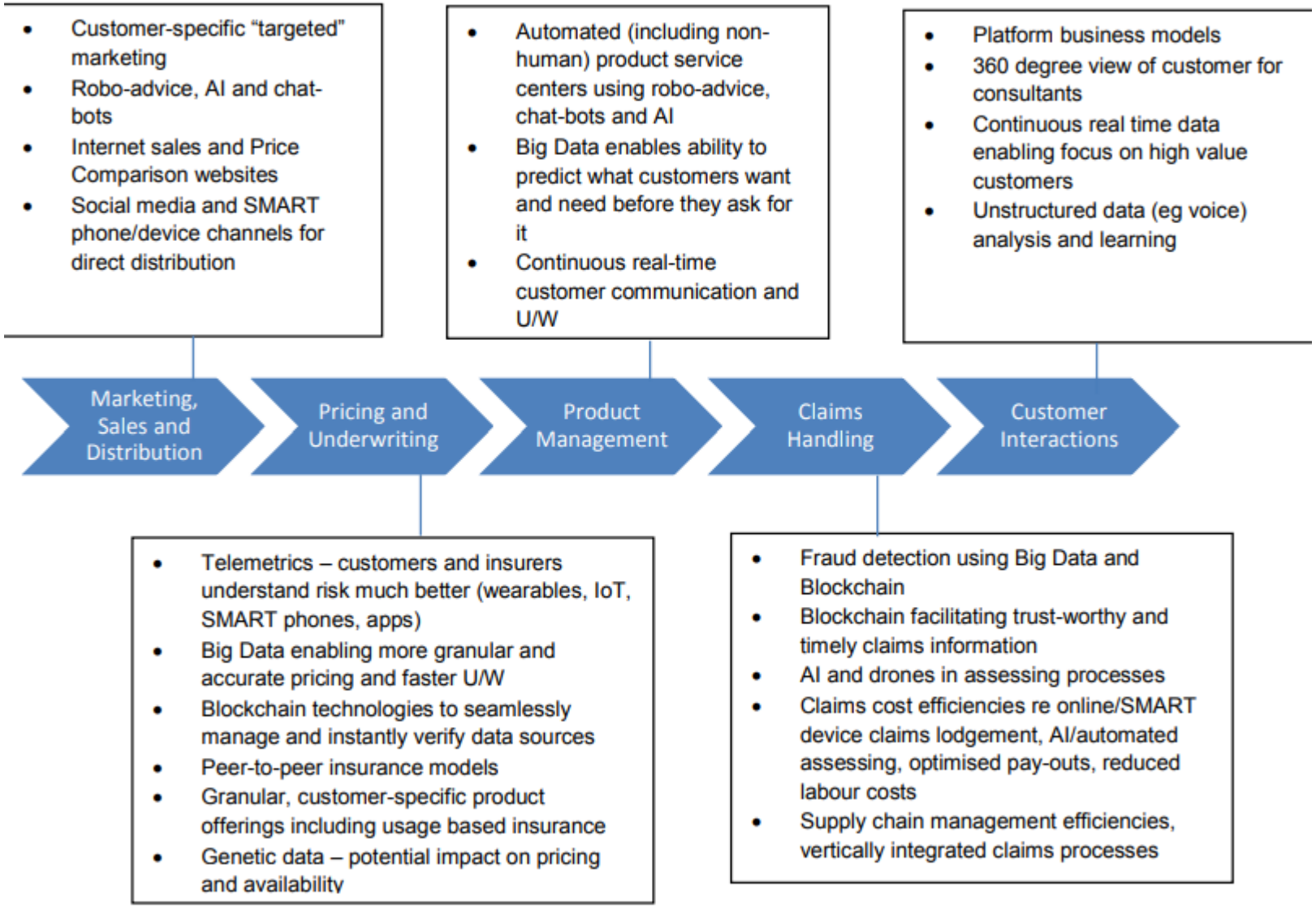
- AI enables insurers to harness insights from data for better decision making, product differentiation, speed claims resolution and effective customer engagement

How digitalization is affecting product design.

- **Big Data** means more data for risk assessment, which can enable underwriting to be based on more granular data, which may, in turn, increase accuracy and allow for faster and more risk-specific underwriting. This needs to be balanced against the privacy concerns of the individual;
- **AI** may create new possibilities for risk assessment and underwriting. For example, insurers can use algorithms in combination with AI that uses the customer's insurance history and lifestyle information to suggest insurance products and for onboarding;
- **The IoT** may create new products focusing on prevention or situational insurance, for example, a sensor will be able to monitor a household's water consumptions patterns, detecting potential leaks and interrupting the flow before the basement is flooded, thus preventing major damage and costly claims[4]. Such tools can improve the interaction with and provide value to the customer, though they can raise concerns if data from devices (eg alerts) are used for premium increases or changes to existing coverage;
- **Telematics** In the context of IoT, telematics involve telecommunications, sensors and computer science to allow sending, receiving, storing and processing data via telecommunication devices, with or without interfering with or steering of remote objects;

Impact of Digitalisation on the Insurance Value Chain

DIAGRAM 1: Digitalisation and the insurance value chain



Disruption and Innovation in the Digital Age in the Insurance value chain.

Underwriting and Product Development

AI can analyze vast amount of Structured & Unstructured Data to enhance the risk assessment process for underwriters

Imagine your system is scanning Images, Social Media Posts, Medical History, Wearable Devices, IoT devices, Emails, other external data sources to consolidate the data and analyze risk

For Motor Insurance it can identify the Driving Behavior Speed, Brakes, Travel Distance, Etc. from the Telematics or IoT devices

For Health or Life insurance, it can identify Wellness Patterns from the wearable devices (Heart Rate, Physical Activity, Sleep Patterns)

While underwriting it can detect Anomaly in Claims Frequency and previously submitted pictures and videos predicting signs of fraud

Helps in automated Data Processing & Capturing

In underwriting, you can also Introduce Chatbots or Virtual Assistance for Enquiries, Policy Status Check, Policy Booking & Renewals

Thus, AI enhances overall Risk Assessment, Data Analyzing & Data Capturing during underwriting

Customer Data Analysis: AI can analyze both structured and unstructured data (e.g. social media, transaction history, browsing patterns, past interactions and past purchases) to understand the customer preference, needs and behavior and providing valuable insights

Tailored Product Recommendations: Based on the customer data analysis, AI algorithms can deliver personalized product recommendations.

Dynamic Pricing and Offers: Based on the data analysis, insurers can offer personalized pricing and promotions. E.g. discounts to customers who are paying for their Gym, Fitness App or using Telematics or Wearable Devices

Virtual Voice Assistants and Chatbots: AI-powered virtual assistants and chat bots enhance customer engagement by providing personalized, real-time interactions. These tools can assist customers 24/7 by answering queries, offering product recommendations, helping with claims, and providing policy information.

Cross-Selling and Upselling: AI helps insurers engage in cross-selling and upselling by analyzing a customer's insurance portfolio and identifying complementary products. For example, a customer with a car insurance policy may be offered home insurance at a discount for bundling the two products together.

1. Automation of Claims Processing

- AI can automate the entire claims process from Initiation to Settlement, drastically reducing the claims processing time.
- You can introduce a "**STP**" & "**TRIAGE**" automation processes for low value claims to speed up the overall claims handling.
- **STP Claims** are straightforward claims that meets predefined criteria without human intervention. These can be small auto claims with AI handling Document Verification, Policy Condition & Payment Approval.
- **Triage Based or High Value Claims** can be routed to the appropriate teams for faster resolution, based on Urgency, Complexity & Risk Factors

2. Fraud Detection & Prevention

- All fraudulent claims leaves evidences, sometimes it can deceive a human eye but not AI
- AI-powered algorithms can detect **unusual patterns** or **discrepancies** in claims data, such as inconsistent information or repetitive claims from the same policyholder
- AI can analyze **customer behavior** and compare it to known fraud patterns to detect potential fraud in real-time.

3. Image & Video Recognition

- AI-driven image and video recognition technology helps insurers **assess damage** from photos or videos **provided by claimants, speeding up the claims process**.
- AI can analyze photos of **car damage, estimate repair costs,** and determine whether a claim should be approved or denied.
- AI can also assess **property damage from photos, such as water damage, fire incidents, or structural issues**, helping adjusters make faster decisions.
- Insurers can send a link over SMS or WhatsApp to the claimants for **on-spot AI inspections**.

4. Document Review through Natural Language Processing (NLP)

- **Claims have extensive paper-work,** such as Policy Details, Claim Forms, Expense Bills, Medical Records, Legal Documents, Customer Communications, etc.
- AI can **scan through the documents and extract** relevant health conditions automatically linking to Policy holders claim.
- AI can also **detect customer frustration** and flag it for immediate follow-up and ensuring to address the issue promptly.

5. Predictive Analytics for Proactive Claims Management:

- **Claims forecasting:** AI can predict the likelihood and cost of future claims by analyzing historical data and identifying patterns helping insurers prepare better.
- **Litigation Prediction:** AI can predict the likelihood of a claim leading to litigation, allowing insurers to settle certain claims quickly to avoid costly legal battles.

6. Telematics, IoT or Smart Contracts Data for Real-time Claims Processing:

- **Telematics for Auto Insurance:** Telematics devices in vehicles provide real-time data on driving behavior, which AI can use to assess claims more accurately.
- **IoT for Property Insurance:** IoT devices in homes, such as smoke detectors or water leak sensors, can provide real-time data that AI analyzes to assess property damage claims.
- **Smart Contracts:** In block chain-enabled systems, AI can work with smart contracts to automatically trigger claims payouts when certain conditions are met.

The Digital Transformation Score Card .

	Cost reduction	Customer experience enhancement	Speed to market	Sales productivity	Underwriting efficiency	Claims efficiency
Omni-channel	✓	✓	✓	✓		✓
Big data analytics	✓	✓	✓	✓	✓	✓
Internet of Things (IoT)	✓	✓			✓	
Telematics		✓		✓	✓	✓
Voice biometrics and analysis	✓	✓				
Drones and satellites					✓	✓
Blockchain	✓	✓	✓	✓	✓	✓

How digitalization is affecting product design.

United Kingdom

UK-based FinTech start-up Cuvva was set up to address the gap of providing hourly car insurance to infrequent drivers who wanted to borrow other people's cars. Cuvva allows customers to arrange cover via an app in seconds. Cuvva manages the sale, service and first notification of loss process through a mobile app.

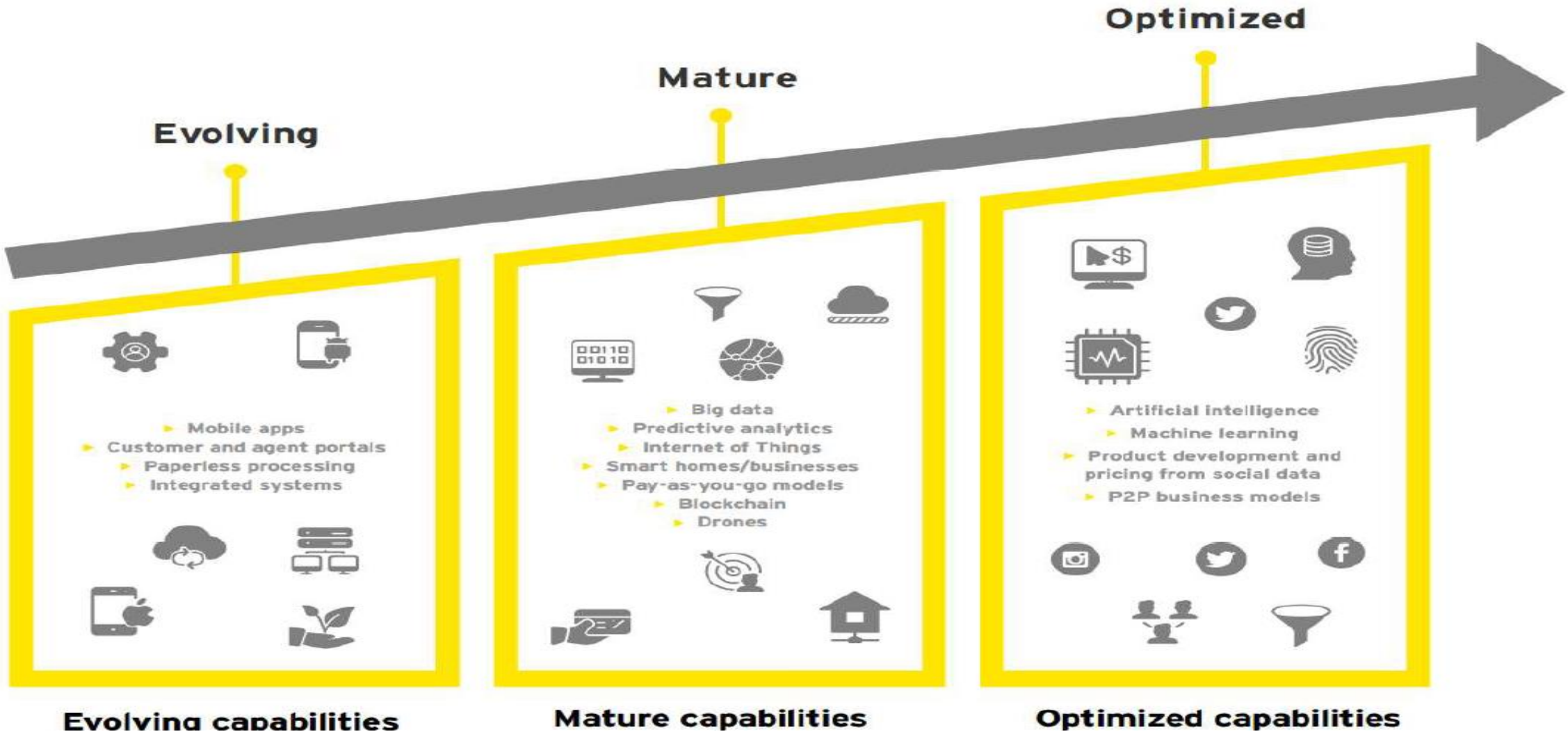
Since launching the initial car sharing product, Cuvva has since launched a second proposition designed for those who own a car, but seldom drive it. Customers pay a small amount to insure their car whilst not driving, and pay an additional amount via the app for the hours that they drive it.

Netherlands

Clixx (a product of Dutch insurer OHRA) offers the opportunity to insure also a borrowed car. The product is bought per day. Clixx' premium is lower if the borrowed car is already fully insured, as compared to when the borrowed car only has the legally obligated liability insurance.

A phased approach to achieving digital transformation

Figure 2: Evolving, mature and optimized capabilities that represent milestones on the journey to becoming a digital insurer



Insurance Regulation in the Digital Age

In order to better understand the role and impact of regulation in digitalisation, The Geneva Association conducted a survey of insurers, the results

Key findings

1. **Insurance regulatory frameworks** are perceived to be less conducive to digitalisation than macro-level factors, such as government policies, digital infrastructure and local culture.

2. The three most commonly cited regulatory barriers are paper document delivery provisions, insurance distribution regulation, and a lack of telehealth provisions for medical exam procedures.

3. Regulatory barriers to digitalisation resulted in additional costs for 60% of insurers during COVID-19 lockdowns, with 50% of insurers reporting lost sales and/or operational impacts.

4. Engagement and cooperation between regulators and the insurance sector , and a technology-agnostic regulatory framework, are the two most common factors for conducive regimes.

Examples of Digitalised supervisory reporting with the onset of the new mode of working

Box 2

Digitalised regulatory reporting enhancements implemented in India and Mexico

Most supervisory processes undertaken by the **Insurance Regulatory and Development Authority of India (IRDAI)** such as licensing, product approvals and other reviews had already been automated prior to the outbreak of Covid-19. Its internal IT team helped overcome some unforeseen supervisory challenges in the early stages of the crisis, such as quickly setting up secure and compatible File Transfer Protocols (FTPs) to facilitate the electronic transfer of large volumes of information between frontline supervisors and insurers. This additional data sharing facility was necessary because traditional data requirements for on-site inspections are often much larger than those for routine supervisory reporting and monitoring purposes.

Concurrently, the authority implemented several measures to help insurers adapt to a more digitalised data sharing environment for example, by implementing strengthened cyber security controls to improve insurer comfort levels about the increased frequency of regulatory reporting through electronic means.

In **Mexico, CNSF** has started to implement regulatory reporting changes to facilitate a complete shift to remote supervision in the future. Some insurers have had to invest in technology and infrastructure upgrades to adapt to a more digitalised regulatory reporting environment. They generally seem to be coping well with these changes, and regulatory reports continue to be submitted timeously

Sources: IRDAI and CNSF

Some of the areas where regulatory provisions can pose a challenge to digitalization.

- Paper document delivery provisions
- Telehealth medical examinations
- Claims processing documentations
- Wet signatures
- Digital contracts
- Prescriptive sales and marketing requirements
- Electronic premium payments
- KYC/AML/CFT – digital rendition

How regulators have reacted in other countries

Large-scale digitalisation of insurance in China started long before COVID-19, reducing the need for abrupt adaptation measures resulting from the pandemic.

The Monetary Authority of Singapore takes a technology-agnostic regulatory approach. During lockdowns, insurers could readily switch their operations to digital channels as long as appropriate controls were in place.

The pandemic experience demonstrated that U.S. insurers can conduct business digitally without sacrificing due care for customer protection and enhancing customer experience at the same time.

Comparison of AI Policy Initiatives by Domicile

	EU	Japan	Singapore	France	USA	Germany	Switzerland	UK	Canada	China	India
lues/ Ethics	Human-centric and trustworthy AI	Human-centric AI and fairness	Fairness, ethics, accountability and Transparency (FEAT)	Transparency and Fairness	Democratic values and human rights	Responsible and public welfare-oriented AI	Human-centric approach	Transparency and explainability	Alignment with international human rights and responsible governance	Alignment with socialist values and national security, ensuring ethical AI development.	Ethical AI development, emphasizing fairness, transparency, a accountability
onomic	Support for AI start-ups and SMEs	Support for Startups and R&D, Innovation	Economic and Business support (SMEs), National AI R&D plans	Innovation and Economic support of SMEs, R&D	Innovation and Competition, investments in R&D	Research and Innovation, Technology Leadership, support for startups	Encouraging innovation	Investment in R&D and economic growth	Economic growth and commercialization-support for business	Aiming to lead the global AI market by 2030 with significant investments in AI infrastructure.	AI for national development, enhancing sect like agriculture, healthcare, and education
fety	Ethical guidelines for AI development and regulation	Privacy Protection, ensuring security	Trusted development and deployment, protection of data	Data protection and Privacy	AI Bill of rights, Safe, secure and trustworthy development of AI, privacy and civil liberties	Data security, explainability	Transparency, Traceability and Explainability. Safe, robust systems	Public Trust and Responsible Innovation	Transparency, accountability and trust	Introduced measures to regulate synthetic content and ensure AI safety	Compliance wi stringent data privacy requirements
sk anagement	Risk-based approach for legislation	Guidelines to address AI risks, transparency and accountability	Accountability, Responsibility-testing and assurance	Transparency of algorithms, ethical code for programmers	Evaluation and policies to test and mitigate AI risks, consumer protection	Setting national AI standards, Protecting personal rights	Accountability and liability. Putting people first	Clear, adaptable and trustworthy regulatory regime. Responsible innovation	Creation and adoption of standards related to AI	Focused on national security and strict AI regulations	Ethical guidelin ensuring that A deployed transparently a safely

Source :-Consideration regarding national AI policy By David L. Shrier[1,3], Ayisha Piotti[2], Alex Pentland[3,4] & A. Aldo Faisal[1,5,6]

REGULATORS ROLE IN FOSTERING DT IN INSURANCE

1. ENCOURAGE FAIRNESS AND TRANSPARENCY IN DT/AI ALGORITHMS

Establish Guidelines for Fairness: Regulators should set frameworks requiring insurers to demonstrate that their AI models are fair and unbiased, especially in underwriting, claims, and pricing decisions.

Promote Transparency: Encourage insurers to use explainable AI tools, especially when models impact consumer premiums or claim decisions. Providing transparent explanations can improve trust and allow customers to understand the rationale behind decisions.

Regular Audits: Require insurers to conduct regular audits of their AI systems, ensuring models are free from biases and align with regulatory standards.

2. STRENGTHEN DATA PRIVACY AND PROTECTION STANDARDS

Compliance with Data Privacy Laws: Regulators should ensure insurers comply with Data Protection Acts like GDPR (General Data Protection Regulation) to protect customer data. This involves explicit consent, secure data storage, and restricted data sharing.

Ethical Use of Third-Party Data: Given the increasing use of social media, IoT, and telematics data, regulators should define ethical standards around third-party data collection, usage, and storage to prevent unauthorized use.

Data Minimization: Encourage insurers to limit data collection to what's essential for AI applications. Data minimization reduces the risk of breaches and protects customers from unnecessary data exposure.

3. IMPLEMENT SPECIFIC STANDARDS FOR ACCOUNTABILITY

Create Clear Accountability Policies: Ensure insurers are accountable for AI-driven decisions. For instance, if a claim is denied by an AI algorithm, there should be a clear path for human review and appeal.

Human Oversight Requirements: Regulators should mandate that critical decisions in underwriting and claims processing have human oversight, particularly when decisions could

Transparency in Automation: Insurers should disclose when automated systems are being used in customer interactions, so customers are informed when AI, rather than a human, is making or influencing decisions.

4. FACILITATE INNOVATION THROUGH REGULATORY SANDBOXES

- **Regulatory Sandbox Programs:** Offer sandbox environments where insurers can test AI applications within a controlled, flexible regulatory framework. This allows insurers to experiment and innovate safely while regulators monitor developments and assess risk.

Continuous Engagement with Insurers: Maintain a dialogue with insurance providers, tech innovators, and other stakeholders to remain informed about the latest AI developments. This helps regulators make informed decisions about future policies and allows for quicker adaptation to emerging trends.

Data Exchange and Consortiums: Encourage insurers to join fraud detection consortiums that share anonymized data to enhance fraud detection capabilities and reduce industry-wide risk.

6. SET ETHICAL STANDARDS FOR EMERGING AI TECHNOLOGIES

Ethical Usage Policies: Regulators should define ethical guidelines around the use of predictive analytics, NLP, telematics, and IoT data in AI systems. Standards should focus on preventing misuse, particularly in areas like customer profiling or pricing discrimination.

Promote Customer Consent and Transparency: Require insurers to get clear customer consent, especially when using data from wearables, IoT devices, or social media. Transparency in data usage builds trust and ensures customers know what data is collected and how

Standardize Real-Time Data Usage: As real-time insights become more common, regulators should set limits on how this data is used in customer interaction and underwriting, balancing innovation with privacy

In Conclusion

Recommendations for regulators and supervisors

1. **Implement a technology-agnostic regulatory framework to ensure regulation is able to accommodate future technological developments.**

- Change provisions on wet signatures and allow for electronic signatures. In some jurisdictions this would mean making the relief provided during the pandemic permanent, while in other cases this would mean extending existing electronic signature provisions beyond 'simple' products to those sold through in-person meetings.
- Enable digital ID verification and support digital on-boarding of customers.
- Widen the possibilities for medical exams by including telehealth provisions.
- Remove default paper document requirements and introduce electronic acknowledgement of document receipt.

2. **For some jurisdictions, adapt data and privacy protection regulation in order to eliminate hurdles to teleworking.** As many countries have shown, this can be done without compromising on privacy and data protection.

3. **Enhance cooperation among supervisors and regulators, as well as with the insurance industry.**

   Deepen international regulatory cooperation and coordination on digitalisation, including the exchange of best practices, potentially facilitated by the International Association of Insurance Supervisors.

Recommendations for insurers

1. **Make better use of opportunities to digitalise within current regulatory and policy frameworks.**

   The survey results revealed that different insurers perceive the same regulatory frameworks differently – insurers that self-rated as digitally advanced considered the policy and regulatory framework in place to be less restrictive than insurers that did not see themselves as 'digital'.

2. **Exchange with digitally-advanced peers and the regulatory and policymaking community on digital matters.**

   Increased engagement with peers, but also with technology firms (FinTechs), may help insurers to accelerate digital transformation within the boundaries of current regulatory and policy frameworks. Engaging with regulators and policymakers on digital matters would improve mutual understanding and pave the way for the removal of barriers.

3. **Be innovative in leveraging technology to strengthen compliance.**

   Distribution of less complicated (non-life) products through digital channels is commonplace in many markets. However, sales of more complex products traditionally reliant on in-person meetings suffered during the lockdowns. As much as regulatory changes would help facilitate the digital distribution of these products, insurers would need to demonstrate to regulators that distribution through digital channels does not impair the pursuit of regulatory and compliance objectives.

Thank You