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# Digital transformation in the French insurance sector



### **Overview**

The ACPR conducted in 2017, and published in early 2018, two studies on the digital revolution, one dedicated to the insurance sector and the other to the banking sector. It seemed worthwhile to repeat these two studies a few years later, in order to assess developments in these two sectors. This work, which focuses on the insurance sector, drew on a survey similar to the 2017-2018 one and comprising about fifty questions, that was sent to 12 representative insurance undertakings in the French market.

Three main transformation drivers have pushed insurers to take up the digital transformation: firstly, the expectations of customers, whose digitised uses were confirmed by the recent health crisis; secondly, the competitive environment with the potential emergence of new players, "insurtech" and "big tech", and lastly, the development of new technologies, which are renewing data analysis prospects.

Since the 2017 study, the competitive landscape has remained mostly unchanged: the main competitors of long-standing insurers are still *bancassurance* businesses that benefit from the implementation of their group's digitisation strategies. "Bigtechs" have not entered the market, and insurers believe their entry to be unlikely in the short-term; "insurtechs" are seen as partners or niche competitors rather than as threats able to bring out major changes.

However, customer demand has spurred insurers to develop the applications and customer spaces that are essential in a world where remote relations are now part of daily life. Even though the health crisis has sometimes shifted the focus of insurance undertakings towards short-term operational priorities, it has confirmed the validity of these choices and, to a certain extent, heightened a sense of urgency that was already apparent in 2017, to carry on a "successful" digital transformation.

In terms of technology, the exploitation of data and the implementation of various "artificial intelligence" (AI) approaches are deemed the most promising avenues for development for insurers. Conversely, this study shows a more nuanced assessment of the potential of the blockchain, with several already-implemented financial centre projects being abandoned, and it also points to a more nuanced view of connected objects.

For insurers, the digital transformation is reflected in the revision of various strategic axes: reflections on their competitive positioning and their relationship with the ecosystem of innovation, harnessing technological potential, managing the risks induced by digitisation and internal transformation.

Insurers are gradually warming up to the ecosystem of innovation by establishing partnerships that could potentially accelerate their digital transformation, increase their operational efficiency or broaden the range of their offered services. A number of insurers increase their investments in innovating start-ups to reach the same goals. Some exploratory work is being conducted on the most novel models, such as "platformisation".

The innovations that are deemed the most promising by insurers, which are therefore the ones being implemented the most, are those that allow for the collection of data, as well as the enhancement of from such data and its protection, including through an increased use of Al. The objectives of the most frequently cited use cases are, on the one hand, digitisation and the improvement of customer relations and customer service, and on the other hand, the improvement of internal

operational efficiency. The customisation of prices and the fight against fraud emerge as the fields most likely to benefit from current technological progress.

The digital transformation makes it possible to automate and secure certain processes and, to that extent, is likely to reduce certain operational risks. At the same time, it increases the exposure of insurers to several risks, including cyber risk and fraud risk but also to the risk related to the use of state-of-the-art algorithms (AI). As a result and in line with regulatory recommendations, insurers are changing their risk management policies.

The internal changes necessary to successfully carry out the adaptations required to implement the digital strategies of insurers are undoubtedly the most significant challenge for industry players. The obstacles to the transformation remain essentially the same as those identified in 2017: the overhaul and update of legacy information systems is time-consuming, as is the acculturation of the workforce. Implementation capability is in fact limited by external constraints which sometimes require for sets of actions to be "deprioritised". Often times, innovation is still viewed as a cost-centre...

Yet, the efforts made to overcome these obstacles are noticeable for almost all of the insurers surveyed. Most of them have set up an innovation department tasked with leading the innovation process in a cross-functional and coordinated manner; they have all allocated dedicated budgets -albeit with significant variations in terms of amount- dedicated to their internal digital transformation. The entire sample of insurers surveyed has also started tackling, to varying extents, an aggiornamento of their information systems aimed at increasing modularity, interoperability and enabling them to create interconnections with other systems. Lastly, in terms of human resources, insurers are implementing various mechanisms aimed at acculturating their employees to the digital era, instilling a culture of innovation and recruiting talent at a time when the most sought-after profiles are scarce.

### **Table of contents**

Three main transformation drivers have pushed insurers to take up the digital transformation	
Customers with already digitised habits have new expectations	
<ol> <li>The emergence of new competitors is forcing insurers to rethink their business model an</li> </ol>	
their offer	
3. The capacity to collect and exploit Big Data, boosted by new technologies, opens up new perspectives that are currently being explored	
3.1. Estimated impact of connected object technologies	
3.2. Estimated impact of artificial intelligence technologies	
3.3. Estimated impact of distributed ledger technologies	
3.4. Other technological developments with potential impact on the insurance busine	
For insurers, the digital transformation is reflected in the revision of various strategic a	axes
1. Reviewing the competitive positioning in the ecosystem	13
1.1 The development of partnerships	13
1.2. Investments in innovative start-ups	14
1.3. Considering the platformisation of the economy with new collaborative models	15
1.4. Safeguarding internal know-how	15
2. Strategies for harnessing the new technological potential	15
2.1. Pre-requisite: strengthening the quality of data collection, exploitation and use	16
2.2. Using the potential of technology to improve customer relations	16
2.3. Using the potential of technology to improve internal operational efficiency	18
3. New risks to be controlled and managed	19
3.1. Cyber risk management	19
3.2. Control and governance of AI algorithms	20
3.3 Managing operational risks through new technologies	20
4. Internal transformation of insurance undertakings to successfully carry out their digital transformation	21
4.1. Implementing a digital transformation strategy	21
4.2. The aggiornamento of information systems	22
4.3. Training, acculturation, recruitment and mobilisation of employees on digital issues: interpretation change management	ternal
Conclusion	27



The ACPR conducted in 2017, and published in early 2018, two studies on the digital revolution, one dedicated to the insurance sector<sup>1</sup> and the other to the banking sector<sup>2</sup>. It seemed worthwhile to repeat these two studies a few years later, in order to assess developments in these two sectors. This work, which focuses on the insurance sector, drew on a survey similar to the 2017-2018 one and comprising about fifty questions, that was sent to 12 representative insurance undertakings<sup>3</sup> in the French market.

This issue of *Analyses et synthèses* aims to present a summary of the answers provided by surveyed institutions, in order to highlight the main trends of the digital transformation of the French insurance sector. This study does not aim to provide a compliance review of the systems or organisations described by the respondents. Nor does it aim to formulate a judgement or to define the Authority's policies with regard to the diagnosis made by the respondents or the prospects outlined by them.

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<sup>1</sup> Analyses et synthèses No.87 <a href="https://acpr.banque-france.fr/etude-sur-la-revolution-numerique-dans-le-secteur-francais-de-lassurance">https://acpr.banque-france.fr/etude-sur-la-revolution-numerique-dans-le-secteur-francais-de-lassurance</a>

<sup>&</sup>lt;sup>2</sup> Analyses et synthèses No.88 <a href="https://acpr.banque-france.fr/etude-sur-la-revolution-numerique-dans-le-secteur-francais-de-lassurance">https://acpr.banque-france.fr/etude-sur-la-revolution-numerique-dans-le-secteur-francais-de-lassurance</a>

<sup>&</sup>lt;sup>3</sup> AEMA, AG2R, Allianz, AXA, Crédit Agricole Assurances, CNP, Covéa, Generali, Groupama, MAIF, SCOR, VyV.



### 1. Customers with already digitised habits have new expectations

While strong digitisation trends were already in place, the health crisis has confirmed the long-term appropriation of new uses by consumers in all sectors. The digital transformation is thus characterised by **new standards for the customer experience and the emergence of new uses**. The latter is leading insurers to offer new products that are better adapted to customers' needs, and to cover new types of risks.

Habits taken in several sectors have indeed modified customer expectations in relation to their insurer, and even customer needs in terms of insurance, whether they be individuals or companies. Insurers **have now adopted shared customer experience standards**, for consumer goods as well as financial products:

- Access to immediate assistance that is quick to respond and available 24 hours a day, 7 days a week. Policyholders expect more timely answers: for example, their requests should be processed within 24 hours;
- A personalised relationship;
- Multichannel or even omnichannel "seamless" services. Insurers are working to digitise their customer space from end-to-end, especially in the wake of the health crisis which has accelerated the use of digital services. Customers want to choose their preferred communication channel, without compromising the quality of service. This trend is referred to as the "Digital First" approach: even though physical branches retain their importance (especially for VSE and professional customers), remote channels (mobile applications and websites) have become primary reflexes. This pattern is becoming a permanent feature of the relationship with the insurer;
- A single entry point and a simple identification system regardless of the product held (need for fluidity);
- A customer journey that promotes autonomy: the new digitised customer areas give consumers more control ("selfcare"). The aim is to increase the added value of interactions with advisers by reducing the time spent on administrative management and increasing the time devoted to personalised advice.

With the digitisation, customers are also more demanding regarding their data, they expect more services in return (personalised customer relationship, real-time adaptation) as well as prices that are adjusted to their specific risks. Customers are also looking for more transparency regarding the nature, limits and costs of coverage. They are more inclined to compare offers, and more reluctant to pay fees they do not consider justified.

In order to better understand these new expectations, most insurers carry out surveys among their customers (satisfaction surveys, focus groups, interviews with prospects, etc.) as well as research (relationship barometers for each target customer with verbatim records, etc.).

New uses and expectations are leading insurers to develop or envision **new** offers that are better suited to customer needs.

- **Embedded insurance** that would take over from affinity insurance by integrating insurance directly into the product purchased or the service provided.
- Embedded insurance often comes with **on-demand or usage-based insurance**: so far, the latter has mostly emerged in relation to "mobility" offers (automotive and two-wheeler insurance), but new uses could encourage its growth; shared mobility solutions also point to the development of fleet insurance;
- Parametric insurance (depending on an index or parameter): such coverage is still relatively unexplored and, apart from climate or agricultural risks, very few use cases have been identified. Yet, a few insurers are conducting research on the matter;
- Cyber-risk insurance<sup>4</sup>: usually offered to legal persons, in most cases as an option or included in a package. For natural persons, insurance undertakings focus on prevention instead, with service offers that are either free of charge or for a fee, depending on the situation.

To date, the trading volume linked to such products remains low.

More generally speaking, the insurers surveyed think that the digitisation of other spheres of economic activity will impact both the insurance business and new risks to be prevented and covered. In the health insurance sector, new technologies improve customer experience (simulation tools to calculate reimbursements for a given healthcare expense, telemedicine) and open the door to the development of new prevention services. Still according to the insurers surveyed, digitisation has also improved access to property and casualty insurance for the general public: the offer is better understood and the underwriting process is standardised, which helps comparing rates and coverage.

While insurers are having to rethink their business models in the light of this digital transformation, none of their activities seems to them to be under particular threat in the long term, as was already the case in 2017 (excluding perhaps the asset management business with the increasing automation of processes).

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<sup>&</sup>lt;sup>4</sup> For example: the increase in the use of connected objects contributes to the emergence of cyber risk within the insurance policies taken out for them.

### **Health crisis and Digital transformation**

The digital transformation that has been underway for a number of years and the development of digitised services have ensured that insurance undertakings remained in business during the COVID crisis. The health crisis has itself contributed to the acceleration of digitisation, both internally (with teleworking and the dematerialisation of administrative processes) and in customer relations (electronic signature, generalisation of paperless administrative processes and development of online resources enabling customers to find answers to their questions in FAQ -"frequently asked questions"- forums or with chatbots, in line with a "self-care" approach).

With the COVID crisis, insurance undertakings have noted an increase in the use of digital functionalities (especially e-signature) on the part of all their customers, regardless of age, as well as a sharp increase in the use of digital channels and customer areas to underwrite, manage their coverage or submit claims.

### 2. The emergence of new competitors is forcing insurers to rethink their business model and their offer

Another transformative factor pushing insurers to further embrace digital transformation is **the emergence of new competitors** who are gradually taking market shares in the most profitable insurance segments. These competitors put customer experience at the centre of their business model by relying on modern, high-performance IT resources.

Yet, as was the case in the 2017 survey, players in the bancassurance model are still perceived as the main competitors of insurers. As bankinsurance actors already have mobile applications in place enabling remote account monitoring as part of their day-to-day banking services, they are considered by the insurers surveyed to be ahead of the game from a technological standpoint: for the most part, their organisational model is already omnichannel.

In the short-term, "Insurtech" players, that is to say start-ups using new technologies to conduct insurance business<sup>5</sup>, are viewed as the most likely to shake up the industry. The insurers surveyed do not credit them only with advantages, though. Traditional insurers recognise the pioneering role bankinsurance actors played in terms of customer relationship, simplicity and agility, especially thanks to the use of artificial intelligence (IA). They also consider bankinsurers' management costs can be more competitive due to the conjugated effects of their specialisation and their information systems that are better suited to new digital uses without any outdated systems to maintain. However, they point out that these new players are positioned on specific parts of the value chain (mainly distribution and customer relations) and reach a highly targeted share of customers with specific products and uncomplicated risks, in a typically small number of business lines. Moreover, few of these insurtech companies carry the risk directly, adopting the status of intermediary instead, which leads them to entering into partnerships with traditional players. In their answers to the survey this study is based on, insurers also questioned the viability of insurtech business models, their ability to manage risk over the long term and their ability to maintain

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<sup>&</sup>lt;sup>5</sup> This term is expressed in its broadest sense and also applies to players who only distribute insurance without carrying the risk.

their offer. Lastly, traditional insurers believe that they are better at providing aftersales support, managing claims and, more generally, at providing quality service, which would enable them to retain their customers.

In the medium to long-term, the Big Five<sup>6</sup> could also gain a greater foothold in the insurance sector by leveraging their large customer base, frequent interaction with their users and increased access to data. However, this prospect is mentioned in a relatively abstract way by the respondents. The strength of the Big Five would also lie in the fact that they do not have to manage their legacy IT assets. One of their weaknesses would be their lack of knowledge of a business that is not their original core activity, as well as a limited ability to gain the trust of their customers.

Lastly, **energy suppliers and telecommunications operators** could integrate insurance into more comprehensive offers.

The competition from these new players focusing on digital channels ("full digital") poses a threat to traditional insurers who could be relegated to a mere producer or risk carrier role. However, according to the majority of the insurance bodies surveyed, the barriers to market entry for all these players remain significant in Europe: the need for significant equity capital (Solvency II), the heavy regulatory constraints beyond authorisation (reporting requirements, etc.), the technical nature of the business to be acquired throughout the value chain, especially in the case of savings, the need to secure the trust of customers, and the time needed to reach critical size and become profitable.

#### Scenarios for the evolution of the financial sector

When queried on several scenarios, almost half of the insurance bodies stated that over the next 10 years, a combination of the 3 scenarios suggested was likely:

- Continued digital transformation of traditional players with integration of innovative start-ups
- Development of partnerships and distribution agreements with operators that integrate insurance as a component of a more global offer to the customer (platformisation scenario)
- Rise of industrial and technological players, notably through partnerships with traditional, well-established insurers.

Traditional insurers point to the risk of losing customer relationships and degraded quality of service due to a fast pursuit of profitability by these new entrants in the insurance market. However, they are relatively unconcerned about the -regulatory and technical- barriers to entry which constitute a real obstacle to the fast and massive capture of market shares by insurtech or Big Tech companies.

8

<sup>&</sup>lt;sup>6</sup> The Big Five (Google, Apple, Facebook, Amazon and Microsoft) represent the leading American digital players.

## 3. The capacity to collect and exploit Big Data, boosted by new technologies, opens up new perspectives that are currently being explored

Digital transformation is also characterised by the use of new technologies that considerably increase the capacity to collect, exploit and secure data. Since the 2017 study, insurers have been able to further appreciate the potential offered by new technology and have started to make use of it through various projects.

### 3.1. Estimated impact of connected object technologies

To date, the impact of connected object technologies on insurance is still considered minor, even marginal, by the insurers surveyed. These technologies are insufficiently deployed and are not always reliable: insurance based on connected objects has not yet found its economic model; the additional cost and complexity of implementation currently leads to a low acceptance rate. The French market for connected objects is also relatively limited compared to other countries, which reduces the number of uses, specifically for car and multi-risk home insurance.

However, one respondent noted that "even if it is not yet possible to prove that home automation objects significantly reduce risks, they already have a beneficial effect in terms of prevention". Concerning housing insurance, for example, connected objects may help with the remote monitoring of houses and may help senior citizens stay in their homes longer. The impact of connected objects could increase in the next 5 to 10 years in the fields of aid to individuals, "ageing well", and home protection<sup>7</sup>.

Connected objects could therefore increase the value proposition of insurance -without being a substitute for it- concerning:

- **The prevention and reduction of risks**: promoting responsible behaviour in the context of car insurance, offering drivers prices that are better suited to their risks, fostering prevention and lowering risks for multi-risk home insurance, disability, incapacity and death coverage funds, health insurance etc.;
- **Enhancing contracts** to cover the specific risks related to their use;
- Improving services to customers by supporting them as closely as possible along the value chain. Connected objects make it possible to multiply the points of contact with the customer and to become a "life partner" (better knowledge of the risks and activities of customers).

There is **still a high level of expectations in terms of regulation**. The insurance bodies surveyed consider that the optimal use of data captured by means of connected objects requires, in addition to a sufficient quantity and depth of data, an easing of the provisions relating to the protection of personal data.

9

<sup>&</sup>lt;sup>7</sup> On a scale of 1 (very low) to 5 (very high), survey respondents estimate the impact of connected objects on the insurance business at 1 to 2 in the short-term, but 4 in the medium to long-term.

#### 3.2. Estimated impact of artificial intelligence technologies

Insurance bodies that took part in the survey consider that the deployment of Al-based solutions<sup>8</sup> will fundamentally reshape internal processes and customer relations. These technologies already make it possible to increase internal productivity by **improving the relevance of employees' decisions** (augmented intelligence), by **contributing to the dematerialisation and automation of processes** (automated document recognition, semantic analysis). Externally, Al allows for an **increase in "acquisition capabilities"** (better targeting of new customers).

Impact assessments vary as the degree of deployment of solutions differs between insurers. The main categories of use cases in the field of insurance are listed below:

- Improving and digitising customer relations: voicebot, chatbot, recommendations, decision-support systems and personalised customer experience.
- 2) Optimising the insurance value chain: optimisation of internal processes and cost reduction through task prioritisation, workflow management, and advanced document reading. All enables the processing of unstructured data and offers the opportunity to automate previously manual processes. It frees advisers from low value-added tasks.
- 3) "Core business" services: Big Data technologies associated with AI make it possible to increase the precision and scope of risk assessment and to improve risk modelling and risk control.

Insurers are developing these technologies internally or through the acquisition of external solutions.

### 3.3. Estimated impact of distributed ledger technologies

On average, the impact is estimated to be low or marginal at present. The blockchain is the focus of watch as well as research for several insurers, but it does not yet seem to have found viable or relevant uses. Respondents recognise the potential associated with the blockchain and with smart contracts in terms of providing cost and lead-time reduction, information storage and process optimisation solutions, but they are still finding it hard to visualise the operational deployment of this technology.

Since the 2017 study, several blockchain-related projects that had been launched by the financial centre were discontinued due to a lack of coordination between actors. Indeed, the management of a private blockchain implies a certain level of commitment in terms of governance and shared responsibility. Insurers agree that there should be stronger involvement in the field, as **technology alone** is of no interest if there is no adherence from all the stakeholders for shared solutions, or even an in-house solution.

Moreover, the explored use cases were not considered to be sufficient on their own to justify the implementation of a market blockchain, the costs of which could only be offset by the implementation of several use cases at the same time.

<sup>&</sup>lt;sup>8</sup> The term is envisaged in a broader sense and includes, in particular, the following notions in the answers received: machine learning, deep learning applied to computer vision, optical character recognition, natural language processing.

Some projects also shed light on the **limitations of blockchain technology** as such. For illustrative purposes, a project to automatically indemnify the beneficiaries of a life insurance contract after the death of a person, thanks to a smart contract, was not successful because of the following limitations: legally, the beneficiaries can be changed several times during the life of the contract, whereas the data cannot be changed in the blockchain. In the same way, the automated triggering of the payment of the benefit implies the ability to update the beneficiaries' IBANs.

### 3.4. Other technological developments with potential impact on the insurance business

**Quantum computing applied to insurance** is still in its infancy: its areas of application and conditions for implementation remain unclear. It poses the risk of a major technological disruption by rendering current cryptographic methods obsolete (which could increase cybersecurity risks). Once it has gained in maturity and affordability, however, it could make it possible to go further in the construction of risk prediction models.

In the medium term (5 to 10 years), **driverless cars** could have an impact on insurance business models, by changing the distribution of responsibility and the selection of risks. The evolution of risk from frequency risk towards serial risk (the risk of serial loss or damage due to faulty design) is estimated to occur within approximately ten years.

The deployment of 5G networks is perceived as having the potential to improve data management within the next 5 years.

### The challenge of digital sobriety

The challenge for insurers is to lead their digital transformation while integrating a digital sobriety perspective. All the stakeholders surveyed mention their interest for the issue of digital sobriety, albeit with varying levels of commitment. While all insurers have become aware of the impact of digital technology on their carbon footprint, the deployment of solutions is unevenly paced.

**Measuring the carbon footprint and emissions linked to digital technologies**, including through the setting up of CSR Committees and the implementation of specific reporting statements ("green IT") constitutes a first step so as to analyse the environmental impact of IT activities using various indicators.

The second step is raising awareness among the workforce and building up employees' accountability regarding the impact of digital technology on the environment. For example, one of the players surveyed raised awareness among its workforce by means of a profit-sharing agreement the CSR indicator of which was the reduction of CO2 emissions linked to digital storage.

The third step concerns efforts towards the reduction of the carbon footprint and towards offsetting these digital uses and flows:

- Optimising and enhancing data centres and rationalising or simplifying applications. The cloud (through the pooling of resources used) is seen as allowing insurers to work more frugally. Several insurance bodies mention that they are streamlining their architecture and reducing the number of CRM tools they use. Others decided to power their data centres located in France using only green energy. Reflections are also ongoing across actors on free cooling technologies for data centres.
- Reviewing and improving code to cut down on consumption.
- Sustainable procurement policy: work is ongoing on environmental clauses to be applied in the framework of purchases and calls for tender, and CSR assessment of IT and technology service providers.
- Adopting and promoting a circular economy approach with suppliers and recycling equipment.



The second section of this document focuses on how these transformative forces impact the activities and organisation of insurers. All traditional players have embarked on this digital transformation process, with varying degrees of progress: new distribution and customer relationship channels, reorganisation and streamlining of internal processes, opening up to startups and external partners via platformisation approaches, use of data and Al to support operational efficiency, etc.

### 1. Reviewing the competitive positioning in the ecosystem

The three transformative forces mentioned in the first section are leading insurers to rethink their competitive positioning in the ecosystem. Several underlying trends have been identified: the development of partnerships that can accelerate the digital transformation of traditional insurance bodies by improving operational efficiency and providing new services (1.1); increased investment in innovative start-ups to achieve these same goals (1.2); as well as the beginning of a discussion on the platformisation of the economy with new collaboration models (1.3).

### 1.1 The development of partnerships

Digital transformation and new uses require insurers to capture the technological solutions and stakeholders that will enable them to accelerate the adaptation of their offers and their organisation. While fintech or insurtech and technology companies can represent a threat, they also provide an opportunity to increase agility, to digitise the customer journey, to improve the customer experience and automate processes. To best support customers in their new consumer habits and address the need for internal transformation, insurers are therefore embracing new players.

These new partnerships usually take the form of technology service contracts or distribution agreements. The review of the answers received shows that they only occur when they address specific needs for which partnership is the best option. Sometimes these partnership agreements are made up of an initial experimentation phase which, if successful, is followed by a gradual deployment of the model and the technology, as part of a co-innovation approach.

Partner companies benefit from the expertise and network of traditional insurers, who in turn benefit from cutting-edge technologies, agile organisation, etc. These partnerships are structured by underlying technological trends, namely the shift towards the cloud and the massive adoption of As a service models, as well as the development of Al.

These partnerships are strategically embedded throughout the value chain of the insurance business:

#### Pricing;

- **Marketing**; mainly partnerships with fintech and insurtech companies for the distribution of insurance products, instant payment, budget management, collaborative insurance, and the development of parametric insurance;
- Administrative management of contracts (with technology companies): use
  of Voicebots, Robot Process Automation, semantic analysis tools, automated
  document processing or legal assistance software, electronic signature or
  project life cycle management tools;
- Claims management: photo analysis and assistance in estimating repair costs for car insurance:
- Fight against fraud and cybersecurity (with technology companies): fraud detection tools, data leak detection tools, cyber risk analysis tools, bug bounty tools.
- **Financial engineering/asset allocation**: securing financial flows through the blockchain, optimising asset allocation and cash flow management.

Partnerships may also involve services outside the scope of insurance per se, but which are complementary to it. A few instances exemplify this trend:

- In the area of **healthcare**: inclusion of "healthy behaviours" in pricing, digital healthcare platform for diabetics (coaching, health data monitoring and Albased health predictions), home care, remote health monitoring and prevention solutions, deployment of networks of health professionals;
- In the area of mobility: support in the sale and rental of cars, car-sharing, car-pooling, eco-mobility;
- In the field of **life insurance**: dematerialisation of beneficiary clauses, online spaces for tributes and condolences.

### 1.2. Investments in innovative start-ups

This momentum for partnerships and openness to the ecosystem may also be reflected in a more successful strategy for investing in the capital of strategic partners in the seed, start-up or expansion phase. Insurers often have their own investment funds to invest in companies linked to their field of activity, that are either complementary to their business or that allow them to improve the quality of their services, offers and internal processes.

The preferred form of such investments is the **acquisition of minority holdings** in:

- Technology companies providing cutting-edge technologies (in particular related to Al and data science) to improve internal processes;
- Fintech or Insurtech with high innovative potential;
- Other essential vertical organisations (mobility, healthcare, cybersecurity).

Insurers invest in companies that developed technologies or know-how that set them apart, companies that are "disruptive" to the core insurance business, or that offer diversification opportunities. The selection criteria remain fairly similar to those applied to regular investments: growth potential, quality of the team, product or service, opportunity for financial gain over 5-7 years, but insurers also pay attention to the potential for synergy and their ability to support the development of the start-up.

Some insurers also have their own incubator, which allows them to accelerate start-ups by providing them with access to their ecosystem and skills in addition to funds.

### 1.3. Considering the platformisation of the economy with new collaborative models

The partnership ecosystem is also evolving, with the increased use of programming interfaces (API<sup>9</sup>) and the perspective offered by Open Insurance. The answers also show the existence of discussions and experiments on platformisation schemes with new collaborative models for insurers: integrating external platforms to propose new offers more promptly, or making insurance services available in third-party offers.

Some insurers use partner platforms (in the field of housing, mobility, banking or payment services, brokerage, etc.) to distribute their products on a white label basis, with the partner platforms connecting to the offers they promote using APIs developed by the insurers.

This platformisation phenomenon creates a whole range of new requirements for insurers. Indeed, from an operational standpoint, they have to ensure that the connection to their APIs is easy, and to re-urbanise legacy information systems to accelerate the deployment of new services. The challenge is now to link their own processes to those of partners through an open API model.

#### 1.4. Safeguarding internal know-how

Traditional insurers usually favour the development of projects using internal skills that they supplement with partnerships. Their goal is to retain control of the technological base and the value chain. In the IT field, the aim is to internalise the core skills and not to disperse the competitive advantages of data. Although technology partnerships allow for a quicker evolution of information systems and for the optimisation of technology layers, traditional insurers remain mindful of their independence. It is also a matter of protecting themselves against their partners failing to take account of the specificities of insurance (adverse selection risk, risk pooling, duration, modelling of churn rate and rate of termination upon death of the policyholder, etc.).

### 2. Strategies for harnessing the new technological potential

The innovations that are deemed the most promising by insurers are those that allow for (2.1) better data collection, data enhancement and data security, in particular through the increased use of AI, and thus contribute to (2.2) the improvement and digitisation of both customer relationship and customer service (personalisation of pricing, development of self-care, dematerialisation of supporting documents), and the (2. 3) strengthening of internal operational efficiency (optimisation of the value chain through automation, reduction of the risk of fraud by systematising checks and the verification of the validity of documents, AML-CFT).

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<sup>&</sup>lt;sup>9</sup> API: Application Programming Interface.

### 2.1. Pre-requisite: strengthening the quality of data collection, exploitation and use

All the insurers surveyed agree on the fact that the prerequisite for exploiting the new technological potential of Al is to continue learning how to better collect, exploit and enhance data. This unprecedented use of Big Data does not come without a few challenges.

Accessibility and availability of data: until now, insurance undertakings may have encountered difficulties in obtaining a complete and "consolidated" view of their customers' data, which is scattered across business lines, multiple CRM tools<sup>10</sup>, and, sometimes, multiple information systems, especially when the customer portfolio has been built up as a result of successive takeovers or mergers of insurance undertakings. Document retrieval systems do not allow for a satisfactory use of unstructured data. Several actions have been undertaken to overcome these difficulties: gathering business data in unique analysis tools to facilitate decision-making, setting up a Unique Person Repository to centralise customer data, deduplicating and consolidating this data in real time for a "360° vision", creating datalakes...

**Personal data portability:** for several insurers, portability remains a marginal and nascent issue (lack of demand from customers, lack of an industrialised solution, lack of technical standards and standardised formats). There are, however, a few projects underway, including data APIs to ensure interoperability between the front and back office and to accelerate the opening of services to partners, as well as data hub projects to share data.

**Data reliability:** difficulties in making data reliable can be related to databases not being documented, to an insufficient quality of data (e.g. inadequate completeness rate) or to the instability of data collection formats over time. As data quality is a key issue, whether it is considered from a regulatory standpoint or a commercialisation one, several surveyed insurers indicate that they have put in place measures to ensure the reliability and quality of data (for instance using completeness, consistency, veracity and accessibility indicators).

**Personal data anonymisation**: the protection of personal data is a sensitive issue, especially when data processing is outsourced. Anonymisation or pseudonymisation depends on the nature of the data and the purpose of the processing. Data re-identification issues are also addressed by some insurers (re-identification score measurement). To overcome these difficulties, several insurers are looking into the production of synthetic datasets, which would make it possible to explore business use cases or to train Al algorithms without needing to access personal data.

#### 2.2. Using the potential of technology to improve customer relations

According to the insurers surveyed, the development of omnichannel approaches has made it possible to improve commercial efficiency, save management time and secure the sales process in relation to new regulatory requirements. Personal spaces are more efficient for customers, accessible on PCs and smartphones, and they offer an increasing number of features. The digital transformation makes the customer's journey more efficient<sup>11</sup> and increases

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<sup>&</sup>lt;sup>10</sup> CRM: Customer Relationship Management

<sup>&</sup>lt;sup>11</sup> To supplement this summary presentation, based on the answers provided by the insurers surveyed for this study, reference may be made to the study carried out by ACPR/AMF Joint Hub on the digital underwriting pathway for financial savings products, which describes the findings of the Authorities as well as the recommended best practices. (Online presentation, starting page 34)

satisfaction through faster underwriting and compensation, better targeting of needs through data mining and enhanced offers.

In the coming years, insurers believe that new technologies make it possible to further the transformation process:

- The acquisition of prospects through digital means;
- The personalisation of the products and services offer;
- The simplification of multi- or omnichannel customer journeys for key products with timely and unified responses regardless of the channel used.

Among innovative technologies, AI is the one that contributes most significantly to the transformation and improvement of customer relations at every stage.

### <u>Pricing</u>: it is in this particular field that insurers identify the greatest changes to come.

Insurers intend to use AI to enhance data analysis and offer even more tailored pricing. New analysis methods, such as dynamic behavioural modelling, could be implemented to refine risk modelling and pricing, including by increasing the number of parameters taken into account in the models and by exploiting external, unstructured and big data. In the longer term, the use of real-time data could lead to the development of pricing models that operate in real time. Insurers will seek to better segment their prices to better adapt them to the customer's profile and use different criteria for this purpose than those traditionally used in pricing.

Some actors are even concerned about this trend, which they consider to go against the principle of solidarity that is consubstantial to their activity. The personalisation of offers through the use of customer data and the individualisation of the amount of premiums or contributions could run counter to the principle of pooling<sup>12</sup>, with a risk of prohibitive and discriminatory tariffs for the highest risk profiles.

These transformations are not devoid of impact on the actuarial function, which several insurers have already modified. Some of the insurance undertakings surveyed seem to be less advanced in this process or more sceptical towards it. To date, they are implementing traditional pricing methods, and they consider that the actuarial function is not intended to evolve, either in terms of structure or in terms of tasks. However, they are still carrying out an active watch on the topics of machine learning methods and models.

<u>Marketing and commercialisation</u>: All is used to push more personalised content towards customers and prospects (inbound marketing), with a more precise marketing target (for instance, optimising geographical presence using geomarketing). It also makes it possible to personalise offers and customer relations progressively, with the implementation of conversational interfaces personalised according to the customer's profile, or advice, for example by enabling the identification of complex beneficiary clauses.

Among the communication channels used, the importance of **social networks** varies considerably depending on the insurer. Some consider that their use should remain limited to the promotion of technical risk expertise, brand visibility and presales communication, as social networks are not used to interact with customers or as sales channels. Conversely, other insurance undertakings have made social

17

<sup>&</sup>lt;sup>12</sup> A distinction must be made between the principle of technical pooling, and pooling or mutualisation in the sense of "fair distribution among the members of a group".

networks a full-blown communication channel, creating regional pages on Facebook, setting up specialised social network teams and even developing platforms to handle requests on corporate social networks.

Administrative management: Al technologies are used at the underwriting stage for the automated recognition of documents or to improve the reliability of "know your customer" (KYC) data, but also to exploit customer satisfaction verbatim records, to process them according to their level of criticality and to direct customers to the right services.

<u>Claims management</u>: in the field of claims management, goals for the coming years are to use AI to reduce handling times and management costs and thereby improve customer satisfaction and customer "retention". This will require, among other things, the deployment of automated flows and the immediate processing of operations, from claims analysis to the payment of benefits (especially through the recognition of dematerialised documents).

### Securing the contract signing process and contract management

The most common ways to secure contracting processes are:

- Electronic Signature:
  - Deployed in compliance with eIDAS standards to guarantee the integrity of a document and identify its author;
  - Use of signature levels adapted to the nature of the operation carried out (subscription, management) and the product.
- **Electronic identification** is implemented by several actors and enables easy connection to the application environment.

#### **Contract management:**

- Traceability, retention and archiving of operations concluded remotely:
  - Archiving: setting up electronic safes for archiving contracts and signatures with evidential value and evidence management;
  - On traceability: for example, traceability and archiving of IS access.

### 2.3. Using the potential of technology to improve internal operational efficiency

All insurers report that their internal processes are being digitised and that their activities (especially those with low added value that are uncomplicated and repetitive) are being automated. Both phenomena contribute to improving efficiency along the value chain. Yet, the integration of modern digital solutions with back office tools developed in the 1990s is sometimes complex.

Al tools are used internally to:

- Optimise and automate internal processes and contract management.
Use cases are numerous: recognition of scanned documents, automated categorisation of supporting documents, processing of e-mails and

classification of requests (mailbot) to prioritise and direct flows to the right managers or detection of specific contractual clauses. For the coming years, goals will include continuing to improve the quality of internal processes with smart automation solutions to gain additional operational efficiency.

- Detecting and reducing the risk of internal and external fraud: several insurance undertakings are deploying models using AI to better detect fraud. For example, some insurers are implementing algorithms to detect identity theft in order to block life insurance surrenders made online (unusual time of day, foreign countries, vulnerable or elderly customers) or to detect car claim fraud or incapacity or death fund fraud. Insurers can also improve pre- and post-underwriting compliance checks using algorithms to verify the appropriate application of internal underwriting rules. AI specifically allows for the integration of systematic checks rather than random checks.
- Combating money laundering and terrorist financing (AML/CFT): All makes risk assessment more reliable and provides better monitoring of transactions in the context of AML/CFT measures, for example by using Machine Learning models to improve the processing of alerts, to prioritise them and to generate an AML/CFT score.

Organisations were also asked about **discontinued Al projects**. In most cases, discontinued projects -which cover a wide range of use cases- are those for which the desired level of automation was not achievable or was too costly to implement in relation to the expected benefits. Insufficient data availability or low maturity of the technology used are also mentioned as discontinuation causes.

### 3. New risks to be controlled and managed

The digital transformation makes it possible to automate and secure certain processes and, to that extent, is likely to reduce certain operational risks. At the same time, it increases the exposure of insurers to several risks:

- Cyber risks and fraud risks: their increase calls for both hardening information system security and adapting governance.
- Other operational risks, including those related to the use of Al algorithms: the monitoring and governance of such algorithms must guarantee that the decisions taken are appropriate and do not present any discriminatory bias.

As a result, insurers are changing their risk management policies.

### 3.1. Cyber risk management<sup>13</sup>

All insurers surveyed have taken a proactive approach to changing and strengthening their governance on cyber issues and raising staff awareness of Security By Design.

They are also implementing audits, penetration testing and various internal security checks to reduce exposure to cyber risks. These methods are used in the assessment of partners and subcontractors during the pre-contractual phase. The recruitment of cybersecurity experts is also part of their strategy to secure their data and information system.

<sup>&</sup>lt;sup>13</sup> For a recent perspective on work carried by the ACPR, refer to the two notices on Information Security and Information and Communication Technologies (ICT) Governance published in July 2021, <u>notice for insurance undertakings</u> and <u>notice for supplementary occupational pension institutions</u>.

Insurers have also developed cyber security incident response plans, including risk classification criteria to ensure that in the event of a security breach, the appropriate staff and procedures are in place to handle the threat effectively. Regular stress testing also allows them to assess their level of security against ransomware.

Other concrete measures can be taken to reduce cyber risks: multi-factor authentication to access the information system, firewall, dual security measures for messaging systems, governance charters laying out cybersecurity rules, data retrieval solutions etc.

Adopting agile rules during the design phase of solutions also makes it possible to integrate security into these processes (DevSecOps) and to make business teams aware of cybersecurity risks as early as possible in the project cycle.

#### 3.2. Control and governance of Al algorithms

The exploitation of data leads to an increased use of Al tools which must be controlled in view of the potential risks, particularly in terms of bias<sup>14</sup>.

Insurers have taken several measures to prevent these risks: supervision of algorithms and compliance regarding the use of AI tools by a dedicated team, setting up monitoring committees dedicated to these projects, etc. They are also developing awareness-raising campaigns and training programmes for employees. Finally, the challenge lies in achieving better knowledge of the regulations that will gradually frame the use of AI.

With a view to ensuring the governance of algorithms, some insurance undertakings have set up strategic, ethical, data steering committees to:

- Prioritise Al project roadmaps according to their strategic value and impact on customers:
- Draft a charter or a protocol on the use of Al and data to better address the associated risks:
- Define methods to monitor algorithms throughout their life cycle in order to fix potential biases and set up warning systems;
- Set up indicators to monitor the performance of models.

#### 3.3 Managing operational risks through new technologies

The contribution of new technologies and better use of data to the control of operational risks is reflected in the answers of the insurers surveyed.

Generally, risk assessment approaches are based on more reliable data and more structured data management. Data analysis allows for **better risk mapping** using risk model simulations. New tools make it possible to conduct remote audits and to increase the potential for identifying risk areas by shifting from a sample testing approach to broad-based systematic testing. Other tools also help detecting weak signals more quickly.

The proper use of data, in particular, constitutes a lever for improving mechanisms for preventing **non-compliance and fraud risks**:

<sup>&</sup>lt;sup>14</sup> For further details on the challenges of AI use, refer to the <u>ACPR report on the governance of AI algorithms in the financial sector (2020)</u>

- Easier reconciliation of data thanks to data centralisation in a datalake, for example, which provides a comprehensive ("360°") view of the data available on a customer;
- Shortening data refresh times;
- More refined data traceability that allows for the implementation of data quality controls and remediation plans.

Innovative technologies also contribute to the control of **cyber risks** and the sophistication of the tools to protect against and respond to threats. Mechanisms that use Al allow for a better identification and contextualisation of attacks to prevent them and speed up the response when they occur. Moreover, cloud services are seen as providing additional security benefits in terms of data protection (encryption, anonymisation) and data resilience (built-in recovery capabilities and automation). **Internal transformation of insurance undertakings to successfully carry out their digital transformation** 

In order to make the new digital tools and methods their own and to ensure their long-term use, in other words to ensure the success of their digital transformation, insurers must carry out a number of internal transformations simultaneously. According to the insurance undertakings surveyed, what will set the various players apart will lie in their ability to make the digital opportunities their own in terms of their organisation, processes and corporate culture.

### 4.1. Implementing a digital transformation strategy

Most insurers have not amended their governance from a legal standpoint, but changes in their operational organisation have been made to better address the digital transformation.

Strategies related to digital transformation are defined within the framework of traditional governance: a "strategic digital transformation plan", "digital priorities" and a matching budgetary framework are defined, depending on the case, either by executive committees, boards of directors or management boards. These approaches are then implemented cross-functionally within the entities and businesses, often through units dedicated to operational transformation.

Most of the insurers surveyed have set up an **innovation directorate (or an equivalent body)** to carry out the innovation process in a cross-functional and coordinated manner, to detect and describe new innovations (products, services, technologies), to synchronise entities, to identify synergies, to validate projects and to monitor them on a regular basis (monthly or quarterly). Lastly, all the insurance undertakings surveyed have allocated budgets dedicated to their internal digital transformation, albeit with disparate levels of investment, but the expected effects are not yet quantifiable. The availability of collaborative and remote working tools should facilitate this internal process towards innovation and agility.

Data governance is an essential topic, and an even more crucial one since the implementation of the General Data Protection Regulation (GDPR) in 2018; in organisations, it has led to the appointment of Chief Data Officers, Data Privacy Officers, the setting up of Data Governance Committees or Data Ethics Committees etc. Respondents state that functions or bodies related to the protection of personal data existed beforehand but were not as noticeable as they are today.

#### 4.2. The aggiornamento of information systems

The more significant insurers, size-wise, have the financial resources to deploy and integrate new technologies and can more easily amortise digital investments to support their multi-channel strategy. However, their application assets are sometimes old or fragmented, which limits their evolution capabilities and their agility in implementing new solutions. Overhauling, streamlining and securing their IT systems, as well as simplifying the standards and methods for managing these systems, is therefore an essential step towards successfully carrying out this digital transformation. These changes require massive but crucial investments in a context marked by increased competition. Insurers all mention that they are engaged in the process towards increasing interconnectivity, although the strategies implemented still exhibit unequal stages of progress.

The main investments made by the insurers surveyed are aimed at making their information systems (IS) more modular, with a particular focus on interoperability and interconnection. Actions undertaken to this end include, *interalia*:

- Setting up teams dedicated to the simplification, streamlining and modernisation of ISs;
- Investing in data integration tools to develop agile data flows such as platforms that deliver applications faster, that simplify data flows and that allow for the sharing of common tools or repositories across entities in a standardised and secure manner;
- Implementing API strategies and defining exchange standards to ensure interconnectivity between internal systems, and with external systems. For the most advanced, interconnections have evolved towards web standards (REST API);
- Standardising development environments;
- Capitalising on "DevOps" practices and tools.

With regard to the use of **cloud services**, and while opinions on the matter remain nuanced, no insurer in the sample took an "outright rejection" stance, unlike in the 2017 study. On the contrary, several insurance undertakings consider that **cloud computing is an essential lever for platformisation**, **APIsation and IS modernisation** to offer services at the lowest cost and with a shorter time-to-market.

The issues most commonly considered by insurers are now the scope of use of the cloud and what can be stored or implemented on the public cloud.

### **Cloud computing**

Cloud strategies remains rather contrasted among insurance undertakings. Nevertheless, they agree on the opportunities and risks associated with the cloud.

<u>The benefits of using the cloud</u>: the cloud is seen as allowing a decrease in the operating costs of IT infrastructure and applications through mutualisation. The cloud also increases implementation speed and accelerates business capabilities: the tools that are natively available in the cloud would allow for faster provisioning and reduced time-to-market. Resource consumption is more flexible, especially thanks to "on demand" storage options. The services available in the cloud, based on state-of-the-art technologies, offer greater simplicity and enable better exploitation of the information captured by the undertaking. Lastly, the cloud helps improving the working environment, increasing collective and individual productivity and facilitating sharing and exchange.

<u>The risks and disadvantages of using the cloud</u>: reversibility is the main risk mentioned by almost all the players. This technological dependence risk is leading some insurance undertakings to move their cloud strategy forward more cautiously. The cloud also poses regulatory risks to businesses, including risks related to the Cloud Act and the invalidation of the Privacy Shield. Lastly, cost control is more intricate, both during migration and in operation, even more so because of the consumption-based billing model.

Several insurance undertakings have chosen to actively pursue a Cloud First or a Move to Cloud strategy in order to reap the financial and operational benefits of the cloud as well as those linked to innovation and agility.

The other insurance organisations surveyed, on the other hand, remain more cautious, and adopt a hybrid strategy (internal IS + public and/or private cloud). Most of them use cloud solutions on a limited scope with the main market operators. The public cloud is mainly used for collaborative use cases and for the specific needs of each project. The internal private cloud is used for the evolution of already developed use cases. Legacy assets are often hosted in-house. Internal cloud technologies are gradually turning to open source solutions to facilitate the modernisation and robustness of application assets.

Insurers are particularly vigilant regarding security, compliance, and reversibility. They remain mindful of dependencies with current or future suppliers. The implementation of cloud services will be supported by the securing of ISs, the use of widely available standard technologies and the gradual and controlled deployment of a multi-cloud model based on non-exclusive sourcing.

### 4.3. Training, acculturation, recruitment and mobilisation of employees on digital issues: internal change management

The changing expectations of customers, the new professional aspirations of employees and the deployment of new technologies in operational processes are all factors that contribute to the transformation of the insurance business. This transformation of business lines and needs must be anticipated when hiring, but it also requires change management for the teams in place. With this dual perspective in mind, insurers are setting up various mechanisms to develop a culture of innovation internally.

### Acculturation and training of the workforce

Most insurers have developed training programmes for their employees focused on new digital tools and new working methods, in order to transform their organisation and better address the new digital uses of policyholders. They describe sustained efforts towards skills development, with, for instance, the introduction of training programmes to develop the new skills needed for new positions ("reskilling") and to upgrade the already present skills of their workforce ("upskilling") so that they can integrate the digital transformation into their daily activities. Some insurers coach their managers specifically to develop more agile practices. Other formal collaborative initiatives such as hackathons or best practice exchange platforms are also being developed. However, several insurers mention that change management is not always straightforward and that mastering new technologies often takes longer than expected.

### New hiring needs

All insurance undertakings have identified a growing need for expert profiles versed in data science, AI, IT, Cloud, etc., with specialisations in data science, data analysis, data engineering, UX design, architecture or software development. New positions and titles are appearing in the organisational charts of insurance undertakings.

All insurers report having trouble recruiting and retaining these profiles in the highly competitive market in which they are scarce, the number of candidates being much lower than the demand for them. Within the framework of the forward-looking management of positions and skills (staff management), some stakeholders have implemented a forward-looking policy to identify jobs, skills, and managerial and organisational models in order to ensure that human needs and resources are well matched. According to the insurers surveyed, another obstacle to the hiring of specialised profiles is the lack of visibility or attractiveness of the industry. All these impediments to the hiring of scarce profiles imply a certain amount of competitiveness regarding the staffing schedule and require the adjustment of pay grids at the time of hiring.

### The agile method to foster a culture of innovation

When asked about the existence of an innovation culture within their company, the vast majority of insurers mention the following as the main factors fostering this culture:

- The gradual adoption of the agile method to design the various projects, and the deployment of new organisational methods in teams and departments;
- A proactive recruitment policy;
- The training and acculturation of employees;

- Financial mobilisation to support innovation;
- Supporting start-ups through partnerships and investments;
- Change management for new uses and new risks: insurance as a service, digitisation of customer areas, omnichannel pathways, etc.

Throughout the answers to the survey, the insurance undertakings describe a gradual adoption of the agile method within their processes, on more or less restricted scopes. This leads to a shared outlook on the stages comprised in the deployment of an innovative solution, namely an agile approach that begins with an exploration and ideation phase and continues with an incubation phase -"Proof of Concept" (POC)- leading to the creation of a "Minimum Viable Product" (MVP) before the launch of new products. Depending on the use considered, the features of the MVP can be enhanced. The solution must be integrated into a robust, secure, scalable and high-performance architecture in order to be used on a wider scale in a subsequent phase.

Insurers tend to take a bottom-up approach to developing initiatives, which in some cases leads to the creation of intrapreneurship structures.

### Regulatory framework and innovation: the outlook of insurance undertakings

Overall, the insurers surveyed consider the regulatory framework to be complex and costly due to a very significant number of European and national regulations. They are looking for simplification, flexibility, clarification and common rules of interpretation. Some stress that a fully digital transformation-friendly regulation should be global, harmonised, clear and stable, as the current situation creates a non-compliance risk.

The regulation on the **protection of personal data** is viewed favourably as it enables the provision of a trusted digital environment. However, the insurance undertakings surveyed point out that it complicates or sometimes even constrains the implementation of innovative tools. In addition, regulatory discrepancies at the international level, in particular between the European and American frameworks, are identified as an obstacle to the adoption of processing methods for monitoring customer relations (cloud solutions offered by Big Tech). The current situation regarding the cross-border transfer of personal data is indeed a cause for concern, in particular due to the invalidation of the Privacy Shield on European citizens' data sent to the US (decision of 16 July 2020).

The insurance undertakings also draw attention to the fact that the specificities of digital technology are not sufficiently accounted for in the regulations, particularly with regard to distribution:

- Expectations regarding the fluidity of the customer journey face information and advice constraints. The current requirements are considered by some insurers to be too complex and not suitable for digital channels:
- The European directives require prior consent from the customer before sending legal documentation in electronic format, whereas for some insurers the rule should be designed the other way around.

Complexity may also stem from the **technical mechanisms** envisaged by the regulations to frame remote transactions (customer identification or electronic signature processes are deemed particularly complex).

The European Commission's strategy on Digital Finance is rather well perceived by the majority of the insurers surveyed, who believe that it creates a propitious environment for pacing up the digital transformation of the financial sector. "Same activities, same risks, same rules" appears to be an essential principle for healthy competition as well as for customer protection.

However, some insurance undertakings draw attention to a risk that the many European initiatives may lead to complexity and to a lack of overall coherence. They also point out that reducing fragmentation through the development of digital finance may be difficult due to the differences between national laws.



Four years after the first ACPR study on the digital revolution in the insurance sector, the analysis made by insurers on the ongoing transformations has not changed in any fundamental way. Their approach to digitisation, informed by the experience that four additional years provided them with, seems to some extent more 'disillusioned' but also more realistic, more operationally-oriented and clearer about the priority goals to be achieved.

In the first place, digital transformation has emerged as a strategic priority for insurers. While the competitive landscape has not changed substantially during these four years, customer demand has prompted insurers to develop the applications and customer spaces that are essential in a world where remote relations are now part of everyday life. Even though the health crisis has sometimes shifted the focus of insurance undertakings towards short-term operational priorities, it has confirmed the validity of these choices and, to a certain extent, heightened a sense of urgency to carry on a "successful" digital transformation that was already apparent in 2017.

In terms of technology, the exploitation of data and the implementation of various "artificial intelligence" (AI) techniques are deemed by insurers to be promising avenues for development. Conversely, this study shows a more nuanced assessment of the potential of the blockchain, with several already-implemented financial centre projects being abandoned, and it also points to a more nuanced view of connected objects.

The digital strategies of the insurers surveyed are relatively diverse and their level of implementation also differs. Their common denominator is the search for a balance between openness to the innovative ecosystem (through partnerships, investments, the use of the cloud) and maintaining control over what is considered crucial to the "core business", starting with customer data and its analysis. Limited exploratory work is being conducted on the most novel models, such as "platformisation". However, contrary to what the 2017 study showed, the use of the cloud is no longer rejected outright by some players.

The obstacles to the digital transformation remain essentially the same as those identified in 2017: the overhaul and update of legacy information systems is time-consuming, as is the acculturation of the workforce. Implementation capability is in fact limited by external constraints which sometimes require for sets of actions to be "deprioritised". Often times, innovation is still viewed as a cost-centre...

Yet, the efforts made to overcome these obstacles are noticeable for almost all of the insurers surveyed. Whether it be in terms of governance, organisation, IT, recruitment, change management or corporate culture, they are already transforming a number of essential insurance functions in a fundamental way

within insurance undertakings that are aware of the challenges posed by this transformation.