

How does digitalization create competitive advantage for insurance companies?

**Case study analysis of global leading insurance firms
and analysis on what the future holds for the
insurance industry in Azerbaijan**

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Executive Summary

Digitalization of business processes refers to the optimization, transformation, and automation of any business unit and its processes while implementing technological platforms and software to minimize the human factor involved and result in higher effectiveness and increased speed of task completion time.

Innovation and development in the insurance sector through technological integration and implementation is the key driver for efficiency gains and securing the position of market leader. Technological advancements facilitate higher quality service provision and provide immeasurable opportunities for data collection and fraud detection. Insurance companies that embrace and implement the digital transformation approach are referred to as “InsurTechs”.

The report focuses on the analysis of case studies all around the world and how insurance companies in a particular market embraces digitalization, what impediments it faces and what are the current market dynamics in the industry. In conclusion, the report provides the key findings and analysis on what the future holds for the insurance industry in Azerbaijan.

General insights on digital transformation in the insurance sector + France Case Study

To operate effectively and maintain a high level of competency by increasing profitability and reducing costs of the company, any market player, no matter big or small has to continuously transform its business processes through the prism of digitization. Digital transformation can be carried out through automation and optimization of various business processes like:

- Optimizing underwriting processes;
- Automation of claims;
- Document management automation;
- Automation of settlement checks.

Automated decisions have numerous benefits for the company. One of the most prominent advantages of digital transformation is relieving the IT department. Since digitization means extensive use of digital software tools, this means that the overall expertise of the business department strengthens and consequently the IT department receives important help when dealing with quality assurance and integration.

Automation and digitization lead to faster market launches. The implementation of transformed decision-making frameworks to the market is based on decreasing the dependencies of IT logic and IT release cycles and better coordination and communication between IT and business departments.

Digitization of business processes imply that the services a company provides is reusable, meaning it will facilitate a less complex IT landscape, and reduces its costs for implementation and operation.

Several steps have to be taken to ensure successful digital transformation of processes in any business. First, more flexible IT landscapes should be created. Insurance companies, usually come across complicated, and evolved IT landscapes and multi-step processes that drive up company's costs and hinder the required flexibility, especially when there is an increasing number of sales channels.

Secondly, automation of processes is an inseparable part of digitization. By automating decisions and rules uniformly throughout the IT landscape, thus increasing flexibility, the company continuously increases the value of their decisions.

Thirdly, improved and systemic decision-making model ensures more effective decision-making to take place in all operations units of an insurance company like, service processes, pricing, contract management, risk assessment, settlement, sanctioning list checks, and fraud detection.

The example of ASSU 2000 Insurance Group is an insightful success story practically proving that digitization of processes leads to better business outcomes. ASSU 2000 Group is a French network of insurance brokers with 400 agencies and more than 560,000 customers. It offers insurance services in the fields of auto, home, and health as well as services in the fields of house mortgage renegotiation. The company faced a challenge

in the face of wanting to find a new global pricing system to respond to some key market challenges like its increasingly digitized distribution channels. The company came face-to-face to rapidly changing and challenging business environment where price transparency and policies had to be flexible enough to adapt to the changing factors. The new pricing framework was supposed to decrease operational costs and replace the current in-house pricing model.

The ultimate challenge for ASSU 2000 was to ensure a multi-channel pricing model was successfully implemented. The high price sensitivity of the market forces insurers to adapt and introduce price changes to the market swiftly. The company defined several requirements to be fulfilled by the future pricing system:

- The central IT of the company had to be able to implement the new pricing model to all distribution channels;
- The model should be easy to use for Marketing specialists and Business analysts;
- The policy had to have a high level of transparency and traceability

The solution to the challenges faced by ASSU 2000 was to introduce a rules-based pricing system. This pricing model uses rule-based concepts to identify and display the pricing in different distribution channels. The pricing policy of any company should be adjusted continuously based on market changes. ASSU 2000 benefits from implementing rules-based pricing policy in the following ways:

- Strengthened position among competition due to accelerated time to market
- Reduced maintenance costs
- Improved communication and cooperation between business and IT departments
- Complete alignment among different channels

The impact that the implemented solution had on ASSU 2000 is that after careful research and analysis, it has been established that the model is more efficient than the previous pricing system. With more than 500 implemented rules, the most complex pricing situation takes about 150 milliseconds, 5 times faster than the previous software.

The impact of digital transformation on insurance intermediaries (US case study)

The case study is about a large insurance corporation valued at 4.2 billion USD offering a range of specialty insurance products. The company was one of the first in their field to capitalize on putting insurers in direct contact with potential customers that are willing to buy their offered services and products via online sales channels. With information being more and more accessible to the customer, insurers need to be better prepared and well informed to address questions during the sales process. Consequently, the company needed to be able to implement intense call flow for quoting, binding and customer service to ensure all requests are answered satisfactorily. To expand in the US market while implementing its UK model, the company was looking for a suitable partner to encompass the following:

- Experience in policy underwriting, specifically in the B2B sector
- Multi-channel, inbound and outbound customer contact processes
- A platform supporting advanced customer service across multiple policy channels
- Strong and experienced human capital, specializing in the field of sales and customer service that have the capacities to assist with responsive support to direct buyers and more than 160 partners and wholesalers in 49 states
- Advanced call center platforms and technology
- Ability to swiftly adapt based on exponential growth

The primary goal of the company was to cause a shift in how consumers buy insurance in that particular market while establishing themselves as a premium brand in the US.

Best-in class agents across the 49 states were gathered and trained to deliver the highest outcomes. These agents were specifically recruited and trained to understand the target customer segment flawlessly. The company has also implemented a technology-based, service solution with a single interface for all agent needs. Key components include:

- Multichannel customer communication via phone, email, chat and callback
- Highly experienced and trained licensed agents specialized in selling commercial insurance products
- Fully aligned front and back office operations, providing single-system access to advisors for quotes, underwriting, sales, premium processing, and customer service
- Policy underwriting and issuance
- Loss notice
- Highly experienced executive management and quality assurance specialists
- Sales operations dashboard and call reports to monitor customer service performance with the goal to continuously improve customer experience and journey via expiring credit card alerts, and new product endorsement tracking to identify individual sales opportunities

All customer communication reports and tracking are displayed on the same platform, which in turn simplifies information search and reduces costs of business operations. The company regularly conducts customer satisfaction surveys to track brand growth in the new market.

Even though technology-based distribution system facilitated automation of processes and self-service capabilities, labor-intensive customer support approach proved to ensure customer confidence in insurer's products. The company has built a direct distribution model for itself that facilitated full alignment of the front and back end operations, which in turn reduce costs and increased efficiency and transparency. Implemented shifts resulted in 100 million USD fast growth in new gross written premium, 98 percent more satisfied customers, and 20 percent higher policies per sale.

DIGITAL TRANSFORMATION OF THE MARKETING FUNCTION FOR UK INSURERS

Digitization exponentially erode the value generated of a company and its products and services they offer. This looks counterintuitive, based on how much companies invest in technology and digital transformation in general. Yet industry trends show that although digital technologies can make companies market leaders, on the other hand, it can slow down corporate earnings and the overall value of the industry. Consumers, instead of companies, are usually the beneficiaries in the digital era.

Today, digitization is rather a necessity than a value driver. The insurance sector is a highly regulated; the consumer on the other hand, is moving at an exceptional speed. Consumers demand simplicity, high speed and efficiency in their service deliveries because of their busy lifestyles and demands. Consumers are getting easier to upset and harder to satisfy.

The main challenge that insurance companies face is to stand out among the rest of the competition and move at the same pace as the rest of the market and especially its target segments.

However, the key to a successful digital market strategy is not directly proportional to the amount of cash and budget spent. On the contrary, it is to establish a long-lasting direct communication and relationship with a customer or potential customer via available earned and social media channels.

Research shows that insurance companies are advised to invest in their digital transformation capabilities rather than tools to make digitization work.

Case Study

The company had a promising future in the non-life insurance sector. Agents, brokers, and direct channels flood the market. Within the direct channels, aggregators are gaining more popularity. On the other hand, sales made through aggregators have a higher cost per sale and lower value per sale. The reason for that is these sales channels attract price-sensitive customers, which in turn leads to margin reduction and higher churn rates.

The company decided to assess the current customer acquisition process. The objective was to increase the effectiveness (sales volume), and optimize efficiency (cost per acquisition) of the more profitable non-aggregator direct channel.

The company incorporated its digital diagnostic framework to measure its marketing capabilities. The framework constituted to deep dive into the company's owned and paid channels, analytics tools, campaign effectiveness, and data infrastructure and availability. Other constituents of the marketing life cycle have been into consideration for the assessment as well.

The problem of the company was rooted down in the lack of knowledge, insights, and monitoring of company's customer journeys. The reports were limited and lacked a level of sophistication.

The company developed a detailed digital transformation roadmap, where all the phases of transformation were described as well as recommendations to bear in mind for a successful transformation. The recommendations were further segmented into short-term, medium and long-term implementations.

The outcomes of the assessment were as follows:

- Identified the targeting models for the direct mail channel to target cold customer base to reduce the cost per acquisition by at least 35%, with a further scope of optimization possible depending upon volume of expected conversions
- Saved up to 0.7 million pounds by developing a better customer targeting framework and channel optimization strategies
- Demonstrated additional top-line upside of 5 MM £ through intelligent targeted offer design based on customer demographics and price elasticity analysis
- Designed comprehensive visuals for campaign performance to facilitate root-cause analysis
- Identified areas for improvement for customer journey, which in turn leads to higher conversion rates and better user experience

Challenging customer experience (Canada case study)

One of the key players in the Canadian insurance market anticipated the shift in customer expectations by transforming its business activity and creating a separate, direct digital direct insurance brand that effectively and efficiently delivers insurance products and services that the Canadian market is demanding.

The insurance company hired a consulting firm to assist it with its business and brand transformation. Extensive market research was conducted in order to understand what customer pain points, preferences, are and expectations to create a brand that would speak directly to their needs. The user experience model was designed using sophisticated software, advanced analytics engine, and innovative digital experience. The company was one of the first market players that offered personal home and auto insurance quoting and binding online. In less than five minutes' time, the customer receives a tailored and personalized quote without having to talk to an agent. The backend use of third party data and real time analytics provide improved underwriting and rating calculations and quotes.

Since the launch of the brand, it has won and has been recognized for various rewards applauding its innovation, marketing and technology. More importantly, customers have had positive reactions to the simplification of insurance purchasing. The firm has more positive reviews on Facebook than any other insurance firm in Canada, which bring customer satisfaction level way up. Moreover, the way company's brand has been created will allow adapting to changing market environments and customer demands, making it easy for it to stay the market leader in Canada. This digital solution allowed the

company to expand its market share and set the high bar for direct insurance experience in Canada.

Overview of the InsurTech Ecosystem in Latin America

Digital technologies and advancements are currently transforming the whole world as well as changing the competitive landscape and shifting consumer preferences globally. These changes have disrupted and left an effect in many various industries, and the main challenge companies face nowadays is to adapt to these changes and keep creating value for its customers. These shifts create discrepancies in what the companies have to offer and what the customers want and need, leading to urgent rise in tailored service and product offers. The financial and insurance sector in Latin America is no exception to the changes in global business operations. Advanced technology has allowed market players to challenge the status quo of the industry by transforming the process of customer interaction and communication that develop business models creating additional value to customers and reducing corporate costs at the same time.

In the last years, there has been a drastic increase in the number of FinTech and InsurTech startups in the Latin American region. The growth is estimated to be 50 percent in 2019 based on the FinTech Radar Report 2019 published by Finnovista. The greatest growth has been observed in countries like Argentina, Brazil, Chile, Columbia, Mexico and Peru.

Brazil, Mexico and Columbia are considered region's leaders in terms of InsurTech growth. InsurTech startups represent 6 percent of the total number of startups in the Latin American region.

Brazil InsurTech Overview

- Leader in the Latin American region with over 370 startup companies created.
- The biggest segments are payments and financial management with 23 and 17 percent respectively.
- The fastest growing segments, on the other hand, are digital banks (147 percent), trading platforms (95 percent) and loans (77 percent).
- 31 percent of total startups in the industry are considered ready and willing to grow, and 35 percent are already in the stage of expansion and development.
- InsurTech startups are growing at a rate of 73 percent annually.

Mexico InsurTech Overview

- Mexico is the second biggest InsurTech ecosystem in the Latin American region.
- InsurTech is estimated to show an annual growth of 27 percent.
- InsurTech represents 6 percent of the total number of startups in the market.
- As far as development is concerned 47 percent of digital, startups are ready to grow and 31 percent are already in the stage of growth and penetration of new segments. Only 17 percent of InsurTech companies have expanded outside of Mexican market.

Columbia InsurTech Overview

- Columbia is ranked third in terms of number of InsurTech and Fintech startups created, reaching up to 124 companies.
- Regarding development, 32 percent of InsurTech startups claim to be ready to grow, and 40 percent of those startups are already in the phase of growth and expansion.
- The startups in that particular segment grow at a rate of 75 percent in the last year.

As far as regulation is concerned, Mexico is the prime market with strictest InsurTech laws that have been put in force in 2018. These laws were established in order to regulate the InsurTech industry and to provide greater legal stability across the industry. In the other biggest markets like Brazil and Colombia, similar laws are in the process of approval.

The development of the regulatory framework in any market is essential in order to establish a safe relationship between the market leaders, new companies and users. However, in case of extremely heavy regulation facilitates barriers to enter the market, which in turn holds back innovation in the market.

Government authorities are also actively involved in facilitating the development and innovation of the InsurTech industry in the top three biggest markets in Latin America. An example of such activity is the imposing of electronic invoicing in numerous countries in Latin America, where users and companies are required to record each financial transaction in the form of an electronic invoice. This process encourages development and digitization in financial and insurance sectors.

Not only has moderate regulation in Latin America facilitated the development and creation of new startups domestically, it has attracted numerous startup companies from abroad, mainly North America and Canada, to settle in the Latin American region. There are approximately 85 foreign InsurTech startups currently settled in Latin America. In addition to foreign ventures, international investors are getting attracted to Latin America in search of new promising opportunities to invest in. These new resources have encouraged and developed both InsurTech and FinTech ecosystems in the region.

Even though the region has seen drastic development and growth in InsurTech and FinTech industries, it is far from being the leader in these industries. Actually, these two ecosystems have the slowest growth rates in the region when compared to other segments. One of the main reasons for the slow growth can be explained because of the conservative and risky nature of insurance. Another main impediment is that there is an extreme shortage of people, who are not familiar with new technologies and digital transformation processes.

In addition, the low penetration rate in the insurance sector is another explanation for the slow growth. This also explains why most of the InsurTech companies focus on developing new distribution channels and product comparisons to improve overall customer experience.

Compliance for insurance companies in the digital age (German case study)

A German-based insurance firm, which is considered as one of the top market leaders, offers services to both individual and corporate clients and has already expanded into several European markets.

One of the main challenges insurers face in terms of compliance is constantly verifying its client data and filter out blacklists. This is done to meet regulatory internal and external compliance requirements, achieve maximum transparency, and ultimately strengthen corporate reputation as a trust-worthy company.

Insurance companies tend to have massive amounts of data to analyze in its clients, partners and other compliance lists.

For an insurance company to meet its compliance requirements and regulations, insurers must regularly update and check its database.

The main objectives of the regular data cleanse are as follows:

- Client and partner transparency screening against sanction and black lists
- Integrating revealed numerous sanction lists
- Automating of verification of extreme amounts of big data
- Reducing data's false-positive rate, which is the measurement of test's accuracy

For sanction lists screening, a specially designed software is implemented that can analyze numerous lists simultaneously. These lists contain physical and legal entities that are prohibited by the government from conducting any kind of transactions.

This detecting software module is been used and implemented by a growing number of banks and insurance companies to automate the creation of its sanction and black lists. Major projects often begin with the determination of a screening algorithm that is applied to the whole database. This is a lengthy process with a high-risk rate. In order to facilitate the large number of data to be analyzed, the algorithm is continuously refined through extended selectors to decrease drastically the false-positive rate of the process. With high volumes of data, it is especially important to reduce the false-positive rate of the algorithm so that compliance officers can focus on other truly relevant cases. For those reasons, automation of the screening process is of utmost importance.

The software itself is based on business rules, adapted to evaluation criteria. For an example, it tells how certain entries like name, birth date and others should be checked against restrictions thereby forming a sanctions list. Gradation of entries is also possible like "identical to" or "similar to".

Another advantage of automation of algorithm generation is that it can be changed easily and quickly in case the screening criteria are changed. This makes the screening process dynamic and extremely flexible.

The benefits that the insurance company enjoys when automating its compliance procedures are as follows:

- Ensuring high performance even for big volumes of data
- Integration and screening of several sanctions lists simultaneously
- Software's straightforward usability and flexibility
- Advanced screening algorithm configuration, which allows concentration on other relevant cases
- Review and evaluation features available on the same software platform
- Audit-proofing all the documentation and entries

Digitalization of anti-money laundering models in insurance companies (Switzerland case study)

The Swiss Life Group is a company based in Zurich, Switzerland. It is one of world's leading insurance and financial service providers. The company offers its services to both individual and corporate clients along with a broad range of products.

As part of Swiss Life's compliance digital transformation program, it has set an objective to detect and identify high-risk entities to prevent money laundering and terrorist financing.

The main challenge Swiss Life is facing is that it wants to automate the process of high-risk entities and fraud detection, immediately extract those entries from the database, and form sanction lists. The software solution the company wanted to implement was planned to be used in several countries in Europe as well as Singapore.

The software was expected to solve the following points:

- Detecting high-risk physical and legal entities
- Easily implemented in a number of European countries simultaneously
- The software should be in accordance with corporate restrictions and guidelines.

A specially designed software that had to be implemented in the European offices has been operating in Swiss Life's headquarters since 2006. Currently the branch office in France is using the system to check their client base electronically. The system is advanced enough to scan entries based on several criteria simultaneously.

Digital insurance platform for SMEs (France case study)

Global insurance and reinsurance broker, Aon has formed a partnership with Chubb, a limited liability insurance company based in Zurich, to provide insurance services online exclusively to small and medium sized enterprises.

The new online platform is powered by Aon's CoverWallet Company and offers more than ten insurance products and services from another global (re)insurer Chubb, by ultimately reducing the time to get an insurance quota from days to merely minutes.

By simply leveraging company's internal digital strengths in commercial risk, the firm offers its clients its services and products that not only meet their needs but also increases the speed at which they are delivered.

One of Aon's core missions is to continually diversify its distribution channels and digitally transform them to increase the rate of automation, decrease the false-positive ratio and ultimately increase customer satisfaction.

The combination of the product range, underwriting expertise, and flexible integration ideally satisfies and addresses the needs and wants of SMEs.

Using the specially developed online platform, the client can obtain quotes on different products, compare coverage options, pay either using a credit card or bank transfers, instantly download all the documentation required to purchase a policy plan and contact a specialist in case of any inquiries.

InsurTech market growth and Digital Innovation of Zurich Turkey

The Turkish insurance market, which is currently valued at 30 billion USD, consists of three main branches: life, non-life insurance and private pensions. The main reason for life segment's growth is directly linked with personal loan growth since most of premium production comes from credit-linked life insurance products. As far as the rate of private pensions rising is concerned, it is all because the number of pension receivers is rising continually and has currently reach an all-time high of six million people. Further growth of this particular segment is expected due to Turkish government's continuous fiscal and non-fiscal support to boost the participation of white-collar employees in the private pension segment.

On the other hand, the development of the non-life insurance sector is directly linked with the overall economic situation in Turkey. In the past decade, the non-life insurance sector has been growing at a rate of 15 percent per year, while in 2016 alone the growth was estimated to be around 32 percent. The insurance sector in general is currently valued at 10 billion USD and when compared to the insurance premiums to GDP ratio, which is around 1.3, the sector should grow seven times to reach the same level of industry value as in EU. Consequently, this results in huge perspectives in terms of growth and development in the non-life insurance sector.

Zurich Turkey is considered as one of the key players in the industry. It has been operating in Turkey since 2008, and has entered the Turkish market through an acquisition and has since invested over 500 million USD.

With the fast-changing environment and market trends, where the young generation demands innovative solutions and an omni-channel approach to customer experience, Turkey has transformed itself into a digital hotspot over the past decade. Currently almost half of the Turkish population own some sort of device with Internet accessibility. Moreover, mobile usage is almost 97 percent, which when comparing to other countries

with similar markets is an extremely high usage rate. Over 90 percent of the whole population has Internet access.

These trends all contributed to the high usage of e-banking. The number of people, who are currently utilizing electronic banking services, add up to almost 45 million, which is a 400 percent increase from 2007. More than 15 million of these people are classified as 'active internet banking customers', which basically means that they use online banking services at least once every three months.

Moreover, the current value of the Turkish e-commerce market has exceeded 6 billion USD, reaching an all-time high. All the statistics indicate that the level of digitalization in Turkey is gaining popularity at an extremely fast rate.

The digital transformation that Turkey has been going through for the past couple of years has had an immense impact on the insurance industry as well. First, customers' quick adoption and implementation of digital services usage has intertwined finance and technology closer together. Companies in the Turkish financial market use increasingly utilize financial technology software not only to transform its business operations but also to provide its customers with innovative solutions to satisfy their wants and needs. One of the first industries to embrace digital transformation in Turkey has been the financial sector, which implies that the insurance sector will follow as per example.

Secondly, with the rise of digitalization of industries like banking services, comes the rise in digital crimes, in other words called cybercrimes. This is where insurance steps in to play a role of a medium to mitigate the risks. Over 15 million people in Turkey today are affected by cybercrimes. A recent survey that has been conducted among avid e-banking services user state that 86 percent are deeply concerned about ID theft and cybersecurity.

Because of the mentioned arising risks and concerns, the insurance sector in Turkey is striving to provide its clients, both individual and corporate with innovative insurance solutions preventing cyber theft. One of the most successful examples among key market players in Turkey is Zurich Insurance. The company's ultimate mission is to become the most innovative insurance company in the market. Zurich Insurance continually develop and optimize their services and solutions to facilitate further sustainable growth and customer-centric approach to business operations. Since the main concern of customers is data theft, Zurich Insurance is providing new cybersecurity products to help customers protect their vital information, like passwords and credit card numbers, from cyber threats. Thus the name of the product, which is "ID-Safe".

ID-Safe users can benefit from various coverage options, like identity fraud and password coverage. But the main selling point of the product is that its features are not limited to coverage plans provided for cyber threats; the product also helps customers to protect their personal information. This is primarily achieved with the help of a special software, Web Radar, which is an additional service provided to policyholders.

The way this software works is that policyholders enter all their information into the secure database, and the software regularly scans through the web to detect any information misuse. In case there is any information misuse, the software sends a warning notification to the policyholder. Moreover, policyholders are also provided with free antivirus software so that they can protect their computer devices as well.

Cybersecurity is a major concern not only for individual entities but also for corporate clients. For that reason, Zurich Insurance is currently working on a similar software designed specifically for SMEs.

Nordic InsurTech market (Scandinavian market overview)

The InsurTech industry in the Nordic region is at a relatively introductory stage. It is common in the Nordic region for incumbent insurers to be digitizing and automating its paper-based operations and IT infrastructure and then label themselves as an InsurTech company. InsurTech is not solely about process automation. For an insurance company to label themselves as an InsurTech organization, three main components have to be adhered to: traditional insurance principles, new technology implementation, and continuous business model innovation. Without even one component absent, this is not and InsurTech.

On the other hand, it is also common in the Nordic region, to see new market players in the insurance industry to offer pure digital experiences to its clients while maintaining minimal costs. This business model is not based on providing effective services to its client, rather to minimize costs on an absolute level.

Both extremes, traditional insurance and pure digital experience, may be profitable. The impediment is whether the company will be able to create a differentiation strategy with extreme business models.

Even though pure insurance technology providers are not common in the region yet, there is a growing number of new market players that commit to adhere to the digitization extreme.

One of the prominent examples is Hedvig in Sweden. The company has all the elements to label itself an InsurTech: Digital service offerings, adherence to traditional insurance principles, and continuous business model innovation of using surplus money and investing in social good.

Another fine example is a company from Denmark, Undo; a company that started as a green-field startup initiative. Undo as well, has all the pillars to label itself an InsurTech. Its user journey is purely digital having a mobility perspective by customizing granular insurance for a younger demographic.

As stated before, the concept of InsurTechs is rare in the Nordic region; however, on the other hand, there is always the constant challenge of changing market dynamics. There has been a research conducted by Oliver Wyman, on societal behavior of population

from several European countries. The research had a sample population of 5000 people from countries like Spain, Italy, Germany, and France. If traditional insurance companies offered similar services as InsurTechs, 61 percent of respondents would still prefer traditional insurance companies. Researcher Fady Khayyat, argues that InsurTech offerings are considered extremely niche, thus the high percentage in favor of traditional insurers.

Insurtechs are constantly innovating and developing. Disruptive technology innovations facilitate that development. Thus, even though the insurtech revolution is in its infancy stage, it is building momentum exponentially.

Technological trends and challenges in the Dutch insurance market (Zurich case study)

Based on a report published by KPMG in 2020, 65 percent of Chief Insurance Officers (CIOs) claim that skill shortage in big data, analytics, AI, and technical architecture is one of the main impediments to facilitate digital transformation and business model innovation.

Another impediment that insurers face in order to customize their offerings to clients is strict privacy technology regulations.

Insurance companies in the Netherlands not only want to match the pace of changing market dynamics, but also invest into futuristic AI technology.

Currently, there are several technology trends that Dutch insurance companies invest in and rely on:

- **Micro services**

Micro services break down large and complex insurance models into simplest core functions. Companies treat each function as a separate service using Application Program Interface (API).

Dutch insurance companies argue that early investment in micro services bring them additional competitive advantage in the market since it facilitates operational cost cutting.

- **Blockchain**

Blockchain in insurance mainly helps to underwrite risks in an emerging ecosystem. Blockchain also facilitates claims functions' automation by verifying coverage between companies and reinsurers. It is also used as a cost-cutting tool by automating payment transactions between parties for claims thus lowering administrative costs.

- **Edge Computing**

This type of technology brings computation and data storage closer to the consumer's location. It increases the speed of response time and can at times

performs various real-time actions and commands. Objects insured using edge computing assist insurers in offering better deals to its clients as well as personalizing the offers.

- [Cognitive Expert Advisors](#)

To enhance customer experience and customer journey touchpoints, AI-powered bots as well as AI-powered advisors are used. The cognitive expert advisor is the hybrid of both tools. They use advanced analytics, natural language processing, decision-making algorithms and machine learning. When implementing this technology, the company increases the speed of service delivery, cuts costs, and maintains quality all with automated business processes.

- [Fraud Analytics](#)

This type of technology is used to increase transparency within the company, identify frauds, and manage claim ratings. AXA Insurance has been using fraud analytics for its product "OYAK" to integrate all of customer-related data into a universal corporate platform. The technology later on detected two records from the same customer preventing fraudulent cases.

- [Machine Learning](#)

This technology relies solely on data patterns and algorithms without needing external instructions. This system is built in such a way that it reads customers' data, analyzes it and begins to automatically handle similar entries. Machine learning helps in quotation of optimal prices and effectively managing claims processes. Another benefit of ML is that it can be implemented cross-functionally on several platforms to analyze several buyer personas at once.

- [Predictive Analytics](#)

Predictive analytics studies historical cases to accurately forecast future entries. Leading Dutch insurance companies use this technology to optimize its claims, underwriting, targeted marketing and offering personalized products to clients.

In the case of Zurich Insurance in the Netherlands, the company uses predictive analytics to identify the most probable risks their clients. Predictive analytics incorporate machine-learning principles to go beyond statistics and probability.

This new risk-predicting model resulted in:

- The company being able to process large volumes of customer-related data across multiple platforms.
- A greater flexibility being presented to generate new data sources and test against them in real-time.
- Greater functionality across different platforms and greater tool variety to be experimented with to achieve most favorable results at the lowest cost.

Predictive analytics have set Zurich's Dutch office way ahead of its competitors allowing it to move together with the changing market dynamics.

Several technology trends might disrupt the future of the insurance industry like, brain-computer interface (BCI), and smart dust.

BCI is a software that allows computers to read human brain's patterns. This technology is currently being used to treat neurodegenerative disorders. This technology may revolutionize medical underwriting processes altogether.

Smart dust is a collective system of micro electromechanical systems (MEMS) that include microscopic clusters of sensors, cameras, chips and robots. These help identify even the slightest light, temperature and pressure changes. This helps insurers to anticipate and thus prevent certain insurance events.

Utmost Group's transformation of operations and automation in the Russian Office

An insurance corporation's Russian office wanted to improve its customer satisfaction and simplify customer journey for its clients. By implementing a specially designed platform, the optimization of internal operational processes, reduction of service delivery time, and improvement in the communication with brokers has taken place.

The company operates in the Russian market and delivers insurance services to Middle Eastern countries by mostly focusing on life insurance business as well as working closely with independent brokers.

The company had an ultimate business objective of transforming its business process mainly through operational automation while delivering high quality results to clients. The impediment was that it had to transform within existing technological limitations.

To achieve and embrace digital transformation of the company's Russian office at the quickest possible rate, the company implemented a specially designed software in 2017. The goal of the software was to read, understand and ultimately substitute the human factor of the operations using Robotic Process Automation.

Within six months after the implementation of the software, it delivered an 80 percent decrease in internal processing time, amongst other improvements such as:

- 80 percent reduction in processing time

- 70 percent decrease in end-to-end cycle times
- 38 percent decrease in the total number of phone calls, despite the increase in transaction volumes
- 56 percent decrease in client problem resolution time via email
- 23 percent improvement (from 73 to 96 percent) in effectiveness of phone calls with clients (call time/problem resolution ratio)
- 75 percent decrease in employee overtime rate

This transformation has had several positive impacts for the company. Firstly, the staff has been able to switch from hectic work schedules to adequate responding times thus increasing efficiency and quality of client deliverables. Secondly, the overall employee satisfaction rate has improved resulting in greater confidence at key intermediary meetings.

Today, the company has transformed operations in all of its offices using a mix of human and bot resources. The software also helps to deploy more bots at pace.

Digital advancements in the health industry of Kazakhstan

While the Kazakhstani health hub is exponentially developing, there are still several impediments and limitation the industry is facing in terms of technological advancements.

Most of the health care facilities and providers are state owned and thus, the government keeps pushing the local population to obtain a universal health coverage to reduce people's out-of-pocket expenses. To achieve the statewide registration to the universal health coverage, the government relies on digitalization of the healthcare ecosystem. The Ministry of Healthcare of the country launched a special project named, "Unified Health Information System", whose aim was to design a special software and automate major operational processes like medical data collection and the monitoring the quality of medical service providers. However, there were several impediments, including certain market dynamics and limitations that prevented the project to be smoothly implemented. One of the main obstacles was technological issues like outdated client-server architecture and software limitations. Other impediments included lack of population enthusiasm and involvement in the development process, which in turn lead to a low level of acceptance of changes in the industry.

With those limitations in place, the Kazakhstani government decided to invest double the capital into the project to change and restructure the whole industry, starting from the way medical providers operate to the development of e-health systems for medical data collection and the overall growth of the e-health market in the country.

In 2020, the local government has launched a new project within the framework called "Personalized Medicine". The aim of the project was to analyze all available data from

data collecting touchpoints to be able to forecast disease prognosis and potential overflow in the near future.

However, this project too has faced complications due to data irrelevancy and shortage. The government did not possess and store data that would date back more than 20 years behind, which can be crucial in disease forecasting. Nevertheless, the government claims that the country is on the right track in transforming the industry and shifting it from being hospital-oriented to patient-oriented medical care.

In the distant 2004, the first telemedicine network in the country has been launched with the aim to provide rural areas with access to basic medical care. Since then, about 200 000 consultations were held using the network.

The government has also incentivized an initiative for citizens to self-manage their check-up times and appointments using electronic applications that help people make a doctor's appointment, keep track of their treatment plan, manage prescriptions and view blood test results. The government has formed partnerships with 40 different medical providers to implement the initiative. The system currently has 2 million registered users.

Another impediment was digital literacy of the population. To implement standard international approaches to digitalization of the healthcare system, the government cannot solely rely on smartphone usage. Thus, the government diversified its channels to SMS communications, call-centers, and data analytics in addition to smartphones. This helped achieve almost 17 percent of the adult population of the country use universal health insurance.

In addition to direct technological advancements in the country, the Ministry of Health also organizes various healthcare related events to increase both the awareness of the population and literacy on the topic. Starting from 2018, the Ministry has held annual large-scale international conferences and exhibitions where practical examples of new technologies emerging in the healthcare landscape have been displayed and lectured about to the representatives of the healthcare industry of Kazakhstan.

Additionally, the National Electronic Health Record platform provides online reports and records, medical history to the public via its free app.

SOGAZ's transformation of its corporate property insurance (Russia case study)

Even though the company is considered as one of the market leader's in non-life insurance sector, they still committed to digital transformation, which started from the property insurance block.

Before digitalization, the company struggled with paperwork and manual quotation process using spreadsheets and non-automatic calculations. SOGAZ decided to optimize the underwriting process by digitalization, which would lead to more efficient results and transparent workflow of the underwriting process.

However, one of the main challenges was to merge vast amounts of data, a number of sales channels, and several levels of organizational structures within one simplified process.

In 2018, SOGAZ formed a partnership with a FinTech company that would help to transform one of SOGAZ's most important business processes, which is corporate property underwriting.

To satisfy and meet all the criteria set by SOGAZ, the FinTech company carefully planned and designed their vision of a transformed underwriting process. The company focused on optimizing the Application, Quotation, Policy Conclusion, and Underwriting processes, which resulted in a universal unified underwriting process.

The transformation was planned and divided into four phases. The first step was to launch a new quotation approach for the corporate property underwriting process. Secondly, the company had to identify and integrate pre-underwriting stop factors. The third step constituted in providing support and integrating the sales team into the transformation process by organizing special trainings and workshops. The fourth and last step was to align the transformation with reinsurance and accounting divisions.

The newly optimized underwriting process works in the following way. First, the process is triggered by an application or a similar command, which contains basic information about the policyholder. Next, upon submission, the application acts as the basis for either one or several quotations. Once the quote is selected, a policy is created.

The most complex part is the calculation of the quotation because it has the nature of changing from one application to another based on different criteria entered. To simplify the calculation process, a specially designed software was created to be in alignment with SOGAZ's internal procedures that would design an algorithm for quote calculation for each application individually.

SOGAZ managed to transform its corporate property insurance underwriting process completely. Not only did the company increase its effectiveness and efficiency, it has also succeeded in the simplification of one of the most complex processes in the insurance business while ensuring that the whole process stays structured, transparent, and delivers reliable and accurate calculations.

A unified underwriting system like SOGAZ's ensures companies' quality improvement, task optimization, work delegation, and supporting several office branches simultaneously.

The company has used the Agile approach to implement the digital transformation of one of its blocks. The first step was planning the solution, followed by several 2-week implementation sprints. This approach allowed SOGAZ to see the results of the project early on and provide immediate feedback. This approach facilitated a speedy implementation time, which was a total of 7 months.

Digital transformation of SAVA Reinsurance Group's IT landscape across Eastern Europe (Slovenia case study)

SAVA Reinsurance Group is an insurance company operating mainly in the southeastern markets of Europe, offering its clients both life and non-life insurance services. The company generates 250 million euros annually.

The main complication that SAVA was confronted with was the inconsistency of its IT landscape across its regional offices. The company sought a solution that would adhere to its criteria, which were:

- Offering online information support about its life and non-life insurance services on a single, easily accessible internal platform;
- Designing an optimum IT platform that would fully support all internal processes while eliminating all other formats of record keeping and data storage systems;
- Designing the online platform in such a way for it to be easily customized based on language and currency options and implemented across several markets;
- Enabling rapid implementation and full alignment in case a new office branch opens.

A unified data storage and information support system allows multi-office companies to easily oversee operations in all of its branches, which ultimately simplifies operations and allows the management to focus on development of new products and serving clients in a more effective and efficient manner.

In addition, uniformity in IT landscape allows the company greater flexibility and responsiveness when new products are formed, which in turn reduce operational costs and IT system maintenance.

Lastly, consolidated and uniform data provides the company a strong and reliable basis for actuarial analysis, and thus more effective decision-making, which ultimately increase business profitability and reduces operational costs.

SAVA has fully transformed its IT landscape across all its offices, which included processes like sales, quotation calculation, premium bookkeeping and management, reinsurance and provisioning.

A major Japanese conglomerate commits to digital transformation to facilitate innovation

One of the biggest Japanese insurance conglomerates, based outside of Tokyo, have been operating for the last couple of decades and wanted to transform their portfolio planning business process, and thus facilitate innovation and new product ideas. They wanted to form long-term partnerships with its peers to intelligently approach innovation activities and retain their position as the market leader.

The company has collaborated with and purchased a license to access a research firm's "Idea Pulse" report for 2021, together with the data set behind it. The dataset contained over 1000 most recent digital insurance innovations and ideas from the top 250 insurance companies globally. The data is categorized based on innovation type (product, claim, underwriting, etc.) and innovation theme (Blockchain, machine learning, etc.). The report also includes all the companies and entities that were involved with each innovation mentioned.

With obtaining access to this kind of dataset, the conglomerate gained access to extremely valuable information that facilitated its further development, innovation and digital transformation in the market. In addition, the company was able to rapidly access a source with all the potential partnerships that they could form based on market dynamics.

Digital transformation case studies on top 4 InsurTech companies from APAC

Based on reports published by EY and McKinsey, the future of digital innovation in insurance lies in Asia-Pacific. The region and China in particular, contribute to nearly 50 percent to all top gross written premium growth globally all due to growing middle class, availability and accessibility to consumer data, and cooperation with leading tech and insurance companies globally.

Another factor that contributes to the high level of innovation and digitalization in the region is the fast-growing number of startups in the industry. Four of them have been selected to highlight the reasons behind their success.

Zhong An

This InsurTech is based in Shanghai and has formed a partnership with Alibaba for further research and development.

The company is known worldwide for its customer-centric approach. The start-up was created by Chinese tech and insurance market leaders, making Zhong An the only holder of an internet insurance license in all China and has server nearly 150 million clients in its first year alone.

The company is also famous for its flexible, speedy, and customized solution offerings to its clients and target audience, who are considered the most difficult to appeal to, which are millennials. This success has been attributed to the company's valuable consumer data that they constantly analyze.

Bowie

This InsurTech is based in Hong Kong and provides health insurance services to both individual and corporate clients. It has formed an extremely successful partnership with one of Hong Kong's biggest conglomerate, Sun Life Hong Kong.

Bowtie is the first insurtech to receive a virtual insurance license in the market from the Hong Kong Insurance Authority (IA). The company's main mission and challenge at the same time is to adhere to traditional insurance principles and keep in the personal approach to clients through modern technology and digitalization.

The company's partner conglomerate has provided the funds and facilitated Bowtie's continuous data collection and research work. Since the company obtained a license to function solely on a virtual arena, this agile approach to workflow has allowed the company to be more flexible and provide unique product offerings to its clients, like the BowtieCash Program, which is a qualified doctors and nurse consultation services and an end-to-end digital experience.

PasarPolis

This Indonesian insurtech specializes in micro-insurance services. PasarPolis provides modular and micro insurance offerings through its established partnerships. These services cover all types of insurances from health to motor, travel and property, missing baggage and more.

One of the company's key missions is to make insurance offerings affordable, accessible and simply for the local population. Despite its massive population, Indonesia has one of the lowest insurance adoption rates in Asia at only 2 percent. The company wants to change the local population's misconception that insurance is a luxurious and can be purchased only by the upper middle or top class. On the contrary, most of the lower income population long for affordable insurance offerings.

PolicyPal

This digital insurance company is based in Singapore that provides easy-to use mobile application where users can look for new policies and manage their current ones, compare coverage plans and prices, all in one place. The application has several partners and allows its users to compare policies from companies like AXA, Zurich, AIA, Allianz, Cigna, Generali, and Prudential to name a few.

The application has an extremely user-friendly interface, a quick sign up and claims process. Besides offering products those of its partners, PolicyPal also offers its own solutions to its users. For example, EZCare, which is a solution that uses the app's front-end web and app technologies to offer a complete digital group employee benefits plan by Liberty Insurance.

Future digital and technological trends in the insurance industry

After careful market dynamics analysis as well as case study consideration, there are several pillars of facilitating digital transformation to maintain or gain the position of the market leader that an insurance company should adhere to like, business process automation, evolution and training of staff in terms of technological intelligence, and

exploiting digital sales and communication channels and prioritizing it in the marketing mix.

Inefficient and manual business processes especially those regard to operations have been a staple in the insurance industry for centuries. The mechanical human aspect of the operations drastically hinder efficiency, speed of delivery and quality of work delivered to the client. In an intensely competitive market, this lagging is no longer an option especially if the company aspires to become or maintain its position as the market leader. Insurance companies keep striving to automate both operational and non-operational processes to improve customer experience and focus its time and energy into product development and improving customer satisfaction. Especially since eSignatures and other digital tools are being normalized and are becoming customers that are more common, are expected to perform nearly all processes like account opening and policy renewals online.

Managing employees remotely and even on-site can be challenging to company management. The pandemic surely created more impediments in terms of logistics of employees and the shift of working from the office to working from home. Specifically designed applications and software have been designed that facilitate teamwork, efficient collaboration, and smooth communication transition. Consequently, inward-facing technological innovation is extremely probable to be one of the focuses in the insurance industry.

Insurance products and services have traditionally been sold and communicated mainly through offline channels like agents, brokers, call-centers, resellers and offices. However, digital channels are gaining exponential edge and popularity. Agents and brokers are now performing and delivering their services through online platforms, whereas self-service digital channels are gaining more popularity with clients due to extreme convenience, simplicity, and speed. A survey that has been conducted by McKinsey&Co in 2020, states that 89 percent of European insurance executives expect exponential increase in the use of digital channels and that they are prioritizing to make the shift from mainly offline to online as smooth as possible. Moreover, currently insurance products and operations like, signatures and medical underwriting that would have required offline channels and manual human factor are transitioning into the digital realm with the help of eSignatures, specially designed software for underwriting calculations and telemedicine services.

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