

Pandemic Digitalization of the Insurance Business

Assoc. Prof. Dr. Stoyan Kirov
University of Economics - Varna, Varna, Bulgaria
kirov@ue-varna.bg

Abstract

COVID-19 changed not only the insurance distribution, but it created the preconditions for technological growth of the insurance business. Against the background of all the negative consequences of the pandemic, incl. increasing health and economic risks, reduce the risk tolerance of consumers. That explains the increased interest in insurance products and hence the growing market shares of insurance companies. However, increased demand has its digital price. Consumers want fast, remote and personalized service in an online environment. Modern users may refuse to visit an insurance office or standardized product. The pandemic managed to radically change people's habits and needs in a short time which found insurers unprepared to adapt to them. For many years the insurance industry delayed technological innovation and was conservative about digital transformations. It is the reason why insurers are now vulnerable and at risk of failing to keep up with new trends. In this context the research seeks to outline the main technological areas in which the insurance business must develop in order to be successful. Unfortunately the digitalization of distribution channels is faster than product innovations, which is a significant problem for successful market penetration.

Keywords: digital insurance, insurance technologies, InsurTech, insurance innovations, business models, digital transformation, digital customer experience.

JEL Code: G22; O32

Introduction

Mastering modern markets requires insurers to innovate their product lines, restructure their services and adapt the business models used in the context of the digital environment. Their rapid adaptation to the new realities will increase the availability of insurance services, and hence it will be an opportunity to use many other financial resources - inaccessible loans, easier issuance of securities, release of excess reserves and more. The tangible end result would be higher competitiveness, more effective cost control, clarification of transactions and stimulation of the development of the financial infrastructure as a whole.

The idea of the *digital insurance* has long been launched as a modern organizational and product innovation that can achieve the set goals. Unfortunately insurers are conservative about technological innovations, but are aware of their inevitable "business adhesion". The refusal to master the new realities in a short time may doom the insurance industry to stagnation or even decline, which will open market niches for the entry of alternative risk transfers (Swiss Re, 2003).

1. Post-Covid Digitalization in Insurance Products

Digital insurance must cover *all aspects of the activities of insurers* in order to be successful, incl. their products, mode of service and distribution channels. That multi-component approach can provide increasing customer satisfaction and sustainability of the insurance business. Most experts believe that insurance companies do not have time and need to change their strategic vision very quickly, because otherwise they will be replaced by technology giants like Google, Facebook, Amazon and others (Gasc, Sandquist, 2014, p. 7). These entrepreneurs openly show interest in the insurance market, which allows them to supplement their product profile and easily increase their income. Obviously the challenges will be great but insurmountable if insurers *start to actively digitize* their activities. This implies collaboration with partners not inherent to them - software companies, Internet providers, owners of social networks, web providers, telecommunications companies and others. The result of such interaction should be the creation of an accessible and timely insurance service that does not involve physical contact with the insurance administration.

Insurance products offered in a digital environment must be parameterized in a unique way allowing easy comparisons with similar services, their purchase without professional advice, remote signing of documents and payment for the service, determination of indemnity according to objective criteria in a fixed amount, proof of damage without physical inspection, etc. The most important thing about product innovations is that they are perceived by the insured as *satisfying new needs*. Unfortunately, current insurance services do not meet the expectations of the new generations. In order to attract the so-called millennials (generation Y) insurers will have to think outside the box and promote their range as completely updated.

The main sales characteristics of the new digital insurances will be the covered risks, the insured objects, the way in which the liability of the insurer is set and the insurance premium. The insurance coverage *will increasingly adhere to the principle of specialization*, i.e. to the definition of events that can be fully determined by technical means. This would exclude possible disputes over the occurrence of the risk and would lead to its further digital service. Most natural disasters are such risks (strong winds, torrential rains, etc.) that can be registered and assessed by meteorological stations. The named coverage of digital insurance does not exclude the option to cover human activities leading to damages (e.g. traffic accidents) but a recording of a technical device as evidence (e.g. car telematics equipment or public video surveillance equipment) will be required. On the other hand, insurance against cyber risks (interference in web applications, card skimmers, operational bugs, denial of services, viruses, abuse of privileges, etc.) will become modern.

The objects of digital insurance will have *to allow remote monitoring*, which is not a utopian possibility and is already applied in practice. "Smart houses" have long been available on the market providing real-time information about what is happening in them. Scanners and sensors monitor humidity, temperature, electricity, gas consumption and at any time can report risk circumstances and record the occurrence of risk. All this is happening thanks to the widely used "Internet of Things" technology (IoT). It supports digital real estate insurance. Automobiles and any other movables that are connected in a network and provide information wirelessly are also perfectly suited to be the object of new insurance products.

The most suitable for digitalization are general insurance products. This is confirmed by the practice globally where product innovations occur predominantly in car insurance (CapGemini, Efma, 2018). Life insurance is currently *on the periphery of digitalization* but it is also changing thanks to better information of insurers about their customers, which is assisted by general practitioners and pharmacists, national health authorities, medical commissions and others. Many people use artificial intelligence at home (Alexa на Amazon, Siri на Apple, Cortana на Windows and others) which monitors and records the conversations of their owners. The information accumulated in this way could be of benefit to life insurers. If their clients frequently consult their artificial intelligence for health problems, this will be an indication of existing risk circumstances and may be included in their insurance file for further analysis. This is a completely non-standard approach to information collection specifying insurers' risk assessments and supporting digital distribution.

The information collected by the insurers in the line of technological innovations can help to personalize the offered insurances in terms of coverage and price. *Digitalization allows personal adaptation* despite the fact that its incorporation into the insurance business is mostly associated with the delivery of standardized, mass insurance services. Moreover, it *allows for price differentiation based on retrospection* which is realized thanks to the transforming risk assessment models from based on a posteriori data to users using current observations. Insurers have real-time information on risk circumstances which allows them to update premiums during insurance contracts. This, on the other hand, gives a real chance to implement the "Bonus-Malus" system and to start overcoming the moral hazard in the system. If digitalisation helps to reduce the risk burden by shedding light on the impact factors, consumers will feel the beneficial price effect (Klapkiv and

Klapkiv, 2017, p. 69).

The link between prices and digitization processes is a "double-edged sword". The ability to compare insurance prices easily and quickly can *greatly exacerbate competition*. This hides the danger of lowering the insurance premiums below the so-called risk premiums, exposing insurers to insolvency. Digitalisation is logical to lead to price reductions, but this should not affect the financial autonomy of insurers - it should be linked to more accurate monitoring and risk prevention. Strong competition in the market will force companies to offer much more diverse payment schemes. *Periodic contributions for short periods* are expected to be a preferred option by digital users, especially since they will be calculated based on the spent part of the risk and adjusted over time. *Deductibles are more likely to undergo structural changes*, first, because they repel customers on online platforms and, second, they are difficult to explain from a distance. They will be replaced by decreasing deductibles that have a stimulating sales effect or will be canceled without having an effect on the original price.

Digital product innovation will not be an easy task for insurance companies given their conservatism and unyielding staff. However, they will be forced by the environment to develop a new design of their services that will make them timely, applicable, desirable, efficient and economical. It is crucial that their products *are addressed to consumer expectations* taking into account their inherent dynamism. "Cosmetic" product innovations will not work, because the frustration of the first buyers will be reported "in a flash" on the Internet and will cause a collapse in market confidence. Any opinion expressed in a digital environment is more easily accepted as true and has an immediate effect on market attitudes (Elwalda and Lu, 2014). In this sense, if insurance companies are going to have digital services they have to do it the way the policyholders want it.

2. For a more exciting customer experience in a digital environment

Renovated insurance in accordance with digital requirements must be offered in such a way as to ensure the best possible customer experience. That means communication with the policyholders have to be easy, fast, trouble-free, secure and effective. Modern consumers want to take out insurance with minimal waste of time and money. They would be reluctant to interrupt the process of their digital purchase to visit the office of the insurance company or its agent. Their partial digital service can disappoint, bore and divert them to other competitors in the market. Obviously, insurers will be increasingly in demand offering a *fully technological distribution chain*, guaranteeing the efficiency of transactions. The reduced costs due to the lack of physical contact during the service is accompanied by an increase in the number of successfully completed transactions in a relatively short time. Unfortunately, the new distribution channels are exposed to cyber risks which can compromise the security of ongoing customer connections. Nevertheless, digital distribution will be *fully acceptable and economically justified* against the background of potential business benefits.

The reluctance of consumers to combine physical with digital insurance distribution should not be interpreted as a refusal of multichannel communication. In the literal sense of the word, it is a question of their *antipathy to "face-to-face" service*. The offices of insurance companies have working hours which creates discomfort for consumers but online platforms are available to them anywhere and anytime. Otherwise, modern customers have no problem switching from a web-based channel to a mobile application, connecting to a call center and returning to the provider's website. The experience for them is more exciting and provocative in this way (Vachkov, 2015, c. 176-178). Multichannel service in a digital environment makes insurance purchases *an irresistible challenge* that holds the attention of customers to the end. The fact that consumers will remain in the sight of insurers and will be served at any critical moment should not be underestimated.

Insurance companies have always had accurate information about risks and their preconditions. In addition of that, they have gained experience in data processing and analysis over the years. But digitization will dramatically increase the flow of information which *will create some*

difficulties for them (Dang, Aggarwal and Patil, 2018). Questions arise as to how this data will be used, what the scope of the analysis will be, how specific the estimates will be, and so on. Big Data *provides unlimited customization options* for both the insurance product and the customer experience. The insurance business must develop in this direction, offering services that are precisely oriented to individual risks, the daily life of each consumer and his behavioral characteristics. The differentiated approach to the clients *builds a special type of attachment* and leaves a lasting positive attitude towards the insurance protection.

The personalization of the insurance service has other positive effects on the customer experience. Once consumers have used the digital services of their insurers, they can count on their assistance in finding *appropriate and timely offers* without investing additional effort and resources in the future. For example, let's look at a case in which insurers have information about customers' purchases and respond in a timely manner with proposals for adequate insurance related to them. All this can be achieved because of data provided by social networks, wholesalers and retailers, Internet providers, collective shopping sites and others.

Although insurance companies are increasingly digitizing their services *there are many unfinished structural elements in it*. For example, the stage of proving the risks, assessing the damages and determining the insurance indemnities continue to take place with the active participation of the insurer's experts. In fact, this is an interruption of digital service which generates consumers' aggression and especially those with a busy daily life. The slow rate in the automation of processing customer complaints should also be considered here. However, the processes are digitized at the level of sending emails or participating in chats, which are "outdated techniques" and lead to system obstruction. Little has been done to integrate artificial intelligence and bot work. In general, *there is a high level of manual data processing* and voluminous paperwork in the last stages of the insurance process. Insurers will need to expand their innovations to meet consumer expectations and become more efficient. In addition, their efforts will have a positive effect on increasing the customers of small and medium business.

Insurers must put their employees online as soon as possible, incl. those who have routinely served customers in companies' offices in order to switch to fully digitalized distribution channels. The transition *will require new skills* that need to be created and cultivated in staff through a series of trainings and seminars (Acharya and Hebbar, 2016, p. 5). Digitalisation can create fears among employees who in turn may resist and even sabotage processes. The reason for this is usually the fear of mass layoffs. Such a position is not entirely justified, because the human factor cannot be completely replaced in the process of digitalization. There will be work for all employees, as long as they are able to increase their competencies.

The fact that some of the activities and procedures of insurers are automated does not mean that they will not be controlled by people. *The role of internal control will increase* with the rate of technological change. The direction of development is also determined by the restrictive regulations introduced by the countries regarding digital innovations. Compliance with local rules will require the involvement of professionals with specific knowledge and skills that cannot be delegated to "smart machines". These and other arguments prove the thesis that the human factor will not lose its role in the digital world. In addition, *it is unreasonable at this stage to digitize all insurance activities*. Solving complex, unique and atypical cases cannot pass without human intervention.

The possible solutions for improving the digital distribution and hence the customer experience are many and varied. The future is in the direction of promoting multilevel marketing through Internet platforms, improving the processes of cross-selling and upselling, the development of crowdsourcing and others. Crowdsourcing makes it possible to introduce technological innovations that are fully adjusted to the needs of consumers. Periodic market research through organized online groups puts insurers *in the position of informed leaders*. So they are not outsiders catching up with market needs.

Cross-selling and upselling are becoming more accessible and efficient thanks to linked

datasets. It is now much easier to detect any purchase and offer insurance for it with a supporting effect, e.g. bank loan with risky life insurance, purchase of a car with property insurance or home insurance with extended coverage for the movables in it, etc. In fact, distribution innovations are constantly expanding and they should not be limited. Insurers must continue to experiment and "demonstrate tolerance for their mistakes and failed attempts" (Nicoletti, 2016, p. 27). *Self-criticism may be a key moment* in the digitalizing world and may lead the insurance business to profitable positions.

The perceived need for full digitalization of the service is not sufficient for the expected transformations of the insurance market. Insurers do not change at the rate that consumers want and that is why they lag behind their competitors. The inertia in their innovations has its logical explanations which, of course, do not justify them but reveal their "pathology". The reason for the slow rate is usually the government regulations, which prevent the use of some modern models for transformation in its pure form (OECD, 2017, p. 29). In addition, insurance companies are burdened with many inherited practices from the past that they cannot get rid of.

The traditional insurance distribution which has been profitable for years, now repels consumers and does not contribute to the prosperity of the business. Apparently, the real genesis of insurers' failure in technological innovation is related to *their lack of experience* in this field. They have never been actively involved in digital distribution and do not have a clear vision for its future configuration. They have never been forced to think outside the box to save their business. This is what creates them the greatest difficulties now.

The growing disbalance between consumer expectations and the slowness of insurers in offering digital solutions creates a favorable environment to enter new players in the market. The biggest threats are technology giants such as Google, Facebook, Amazon and Apple which have millions of customers on their platforms and can quickly establish themselves in insurance, pushing out traditional participants. That is why it is reasonable *to look for collaboration with InsurTech* at least as an initial phase for "extreme" digitalization. They can help insurers in their restructuring process by offering flexible, innovative and modern digital solutions. It is important not to lose customers with old-fashioned and cumbersome sales procedures.

InsurTech are more adequate in communicating with customers, timely reporting their moods, sifting out the wrong (false) signals and can offer a *unique customer experience "from end to end"* (Vachkov, 2015, c. 212). They sell cheaper, firstly, because they know the risk better and, secondly, because they have an effective cost program. InsurTech companies rely not so much on a historical performance of the risk but on its prognostic simulation when they assess the risk burden. They have taken the innovative approach of *insuring not the property but their owners* with all their oddities. Now it is up to the insurers to choose the right partner and to hurry to adapt their sales techniques with his help because otherwise others will do it for them.

3. Applicable business models for digital insurance in the pandemic

The insurance digitalization is an irreversible concept caused by the unsuitability of traditional business models to new customer expectations. The classic formula to provide protection through adhesion contracts on the principle of "face-to-face" suffers serious criticism because it can not guarantee competitiveness and hence increasing efficiency of insurance (Vanderlinden et al., 2018, p. 195). The realities make traditional insurance *insufficient for quality risk management*. In fact, they only compensate for the direct damages from the risks without being interested in "aftershocks". They will not compensate for the lost benefits of losing the normal rhythm of life and productive activity.

Traditional business models *do not generate a sufficiently stable and trusting relationship with customers* (Thomas, 2017, p. 18). The main attention of insurers is focused on the signing and renewal of insurance contracts, and everything else is left to happen "by default". It is more than certain that a new market approach is needed to make *consumers want insurance services* and not to

buy them because they are forced by the law or simply because they have no other alternative.

Insurers are increasingly transforming their business models to meet market challenges. Of course, they do not need adaptive innovations but an aggressive restructuring of their activities. Decisive measures are needed for business reforms and the integration of unique models to open up new opportunities and overcome current imperfections (Vachkov, 2011, c.13-17). Like all entrepreneurs in the market, insurers need to be more efficient by minimizing their costs and at the same time making the realization of their services more profitable. Technologies has potential and can penetrate the entire business model *changing it from within*. This means looking for new partners, promoting new products, using digital platforms, automating the service process, etc.

Innovative insurance business models create competitive advantages by relying on product development and partnerships with high-tech companies. The creation of a new product does not mean a "slight" optimization of the existing assortment but the offering of *a qualitatively different insurance service* adapted to the customer needs and the parameters of the digital distribution channels. Modern consumers expect timely digital solutions in more aspects of their lives putting *shopping convenience ahead*. In this context, it seems reasonable to use such digital distribution channels that respond as much as possible in line with market demand (web sites, virtual brokers, mobile applications, social networks, two-way platforms, self-management of applications, etc.). Behavioral information accumulated through them can help increase customer satisfaction. The better insurers know their customers the more personalized experience they can offer them. On the other hand, digital distribution is seen by consumers *as a much more transparent alternative* than traditional distribution which increases their confidence in the insurance business (Cebulsky et al., 2018, p. 360). This makes us think that *transparency and trust will be the leading features* of the new business models.

Another key factor in establishing a successful business model in a digital environment is *choosing the right partners*. The group of companies with which insurers can collaborate and implement innovative projects is quite different. Some of them are completely atypical for the "physical" supply of insurance. And if so far insurance companies have mixed their sales with commercial banks and real sector companies (travel agencies, car companies, etc.), now they will have to cooperate with telecommunications companies, Internet providers, social network owners, generators of offer comparison services, Big Data analyzers, original equipment manufacturers, etc. The number of new partners is large, but more importantly, they were never in the sights of insurers until a decade ago. Establishing long-lasting contractual relationships with them will take time for market identification and adjusting the business model to their way of working.

Some researchers do not hide their concerns about new participants to business models (Cappiello, 2018, p. 34). The existing concerns are related to the potential repositioning of insurers in the sales process and the loss of control over sales on their part. In fact, digital partners can acquire much more confidential information about the insured than the insurers themselves, incl. to systematize and decode it more quickly in their favor. For this reason, any successful business model must not allow insurance companies *to lose touch with their customers*, even it must build a "permanent bridge" for the parties to be personally recognizable.

If possible, the connection with the clients should run simultaneously through several channels. For example, an information about a suitable product should be able to be obtained from the insurer's website but also from an SMS message or chat communication. Contact should be *insistent (obsessive) but also expected (useful)*. In these circumstances the data from the insurance profiles of consumers must have the status of a company secret, firstly, to ensure the sustainability of the business and, secondly, not to marginalize the functions of insurers.

In order to start the reengineering of business models two types of innovations are needed - *expansionist and constructive*. The difference between them is in the way they impose the market power of their administrators. Business models with expansionist characteristics target undervalued consumer segments or competitors' markets seeking to increase market positions of insurers within

existing customers. The orientation of the construction business models is diametrically opposed which also pursue an increase in revenues but by opening new markets, incl. *by creating new users* (Vermeulen and Raab, 2007, pp. 40-41). They have the power to multiply the financial results of insurers in the long run but at the same time they are more risky. Despite their differences both types of business models need strong digitalization of the distribution processes, incl. excellent expertise for e-commerce. The most common models in the insurance industry that can be classified as innovative are on-demand insurance, peer-to-peer insurance, usage-based insurance (IAIS, 2018, p. 10).

These business models include the creation of new products or a significant change in available services so as to fully meet the evolving needs of consumers. Product innovations must be adapted to the personal specifics of each individual customer. The information available in the digital space allows to personalize the supply in case that the insurers manage to react in a timely manner to market attitudes. Thanks to their innovative products they can attract or create new customers which can be transformed into loyal subjects of insurance relations. Digital insurance is "addictive" and can cause these newly attracted consumers to enter the main market segments of insurance companies very quickly (Gawali and Mundhe, 2016).

Conclusion

COVID-19 catalyzed the digitalization of the insurance business and set the guidelines for the successful development of insurance companies. Traditional market participants adopted new business models to create customers and increase their market power. Regardless of their choice of constructive or expansionist business model they *had to digitize their activities from end to end* in order to avoid the burden of administrative requirements for their customers. Insurers began to actively use artificial intelligence, machine learning, telematics, blockchain technology, drones, the Internet of Things, InsurTech and many other technological innovations. All of them aim to provide faster and more convenient channels of communication in connection with the signing of contracts, risk assessment and liquidation of damages. Although the positives of the new business models are addressed mainly to consumers insurers earn no less than them. Firstly, because they will be much better informed about the risk circumstances, secondly, they will be able to counteract insurance fraud more effectively, thirdly, they will be more competitive in terms of their products and, fourthly, they will ensure faster market penetration. All technologies improve the speed and accuracy of data processing, which brings together the moment of insurance decision-making and its actual implementation, respectively the moment of occurrence of damages and the claim for them. This is exactly the success of the new business models. The risks have intensified in the context of the pandemic and require proactive action. The desired and expected personalization of the insurance service can now happen in real time and with minimal information asymmetry. Improving the customer experience will cost insurers dearly (not only because of the high IT costs, but also because of the need for secure privacy and cyber attack management) but it will have a compensatory and stabilizing effect on the business in the short term.

References

1. Acharya, M. and Hebbar, Dr. (2016). Digitalization of insurance sector: issues and challenges to an insurance advisor. *International Journal of Advanced Trends in Engineering and Technology*, 1 (1), pp. 5-9.
2. CapGemini, Efma. (2018). *World Insurance Report*. [Online]. Available at: <https://www.capgemini.com/service/world-insurance-report-2018/> [Accessed 25 September 2021].
3. Cappiello, A. (2018). Technology and the insurance industry: re-configuring the competitive

- landscape. Palgrave Pivot, Springer.
4. Cebulsky, M., Günther, J., Heidkamp, P. and Brinkmann, F. (2018). The digital insurance – facing customer expectation in a rapidly changing world. In: Linnhoff-Popien, Cl., Schneider, R. and Zaddach, M. (Eds.). *Digital marketplaces unleashed*. Berlin: Springer-Verlag GmbH, pp. 359-370.
 5. Dang, S., Aggarwal, Sh. and Patil, D. (2018). Transforming Big Data analytics into a competitive advantage for insurers. *Infosys White Paper*. [Online]. Available at: <https://www.infosys.com/industries/insurance/white-papers> [Accessed 20 February 2020].
 6. Elwalda, Abd. and Lu, K. (2014). The Influence of Online Customer Reviews on Purchase Intention: The Role of Non-Numerical Factors. In: Proceedings of the *European Marketing Conference LCBR*. Munich, August 2014.
 7. Gasc, J. and Sandquist, E. (2014). Seizing the opportunities of digital transformation. *Accenture White Paper*. [Online]. Available at: <https://www.accenture.com> [Accessed 10 October 2021].
 8. Gawali, R. and Mundhe, D. (2016). Digital transformation in insurance sector. *International Journal on Recent and Innovation Trends in Computing and Communication*, 4 (11), pp. 95-103.
 9. IAIS. (2018). *Application paper on the use of digital technology in inclusive insurance*. [Online]. Available at: <https://www.iaisweb.org/page/supervisory-material/application-papers> [Accessed 15 September 2021].
 10. Klapkiv, L. and Klapkiv, J. (2017). Technological innovations in the insurance industry. *Journal of Insurance, Financial Markets and Consumer Protection*, 26, pp. 67-78.
 11. Nicoletti, B. (2016). *Digital Insurance: Business Innovation in the Post-Crisis Era*. Palgrave Studies in Financial Services Technology, Palgrave Macmillan.
 12. OECD. (2017). Technology and innovation in the insurance sector. Secretary-General, OECD.
 13. Swiss Re. (2003). The picture of alternative risk transfers. *Sigma*, 1, pp.1-44.
 14. Thomas, M. (2017). Insurance: Challenges to the business model. *The FINSIA Journal of applied finance*, JASSA, 2, pp. 14-21.
 15. Vachkov, St. (2011). Bankovite biznes modeli: pouki ot minaloto i viziya za badeshteto. Varna: UI „Nauka i ikonomika“.
 16. Vachkov, St. (2015). Inovatsiite – novata normalnost v bankiraneto. Varna: UI „Nauka i ikonomika“.
 17. Vanderlinden, S., Millie, Sh., Anderson, N. and Chishti, S. (2018). *The InsurTech Book. The insurance technology handbook for investors, entrepreneurs and fintech visionaries*. UK: Wiley.
 18. Vermeulen, P. and Raab, J. (2007). *Innovations and institutions. An institutional perspective on the innovative efforts of banks and insurance companies*. NY: Routledge.