AI-POWERED CLAIM AUTOMATION IN INSURANCE

The insurance market is undergoing continuous change. Individual products are receding into the background and are becoming increasingly easy to substitute due to falling barriers to switching and increasing competition from purely digital providers. End-to-end customer experience - the distinctive service concept from initial interest through to the claim - is becoming the focus of attention. After more than 15 years with a strong focus on process optimization and industrialization of claims handling, the potential for optimization with proven approaches has largely been exhausted. The expectations of increasingly digital-savvy customer groups are rising exponentially, following best practices from the tech world such as Amazon, Apple or Google. Transparency, simplicity, flexibility, and innovation are the new customer loyalty attributes to which the entire industry must adapt. At the same time, individual insurers must also differentiate themselves from competitors - one significant lever is a long-neglected service area: claims processing.

But how can this differentiation be achieved? The automation of core insurance processes as one of the mega trends in property insurance provides the answer. Through AI-supported process automation, customer experience can be drastically improved across all touchpoints. At the same time, further process cost reductions can be realized. Repetitive tasks can be supported by AI applications, whereas service staff can fully focus on complex claims to deliver personalized support. Studies show that the profit of companies that have already fully integrated artificial intelligence into their claims management increases by 3-5%[1]. So it's time for insurers to address the issue of process automation and take the next step toward an optimal customer experience.

What are the benefits and advantages of process automation?

The differentiating power of process automation is clear from both a business and customer perspective. In addition to the promise of increased efficiency, it is possible from a company's internal perspective, for example, to more easily identify insurance fraud and manage risk. Even if complete automation of processes - i.e., straight-through-processing - is the ultimate goal, it is fundamentally difficult to automate business processes holistically right off the bat. For this reason, companies today mostly focus on automating sub-tasks for the time being. Accordingly, a human component will not be eliminated from claims processing, at least not initially, because humans and machines work together and complement each other's skills - they thus become so-called "superteams". In this context, the term "bionic operations"[2] is used.

On the customer side, this complementary cooperation leads to two major improvements in customer experience: On the one hand, it eliminates unnecessary steps in the customer journey and thus frustration - the interaction with the customer is smoother overall. Second, AI-powered automation enables insurers to provide innovative and higher-quality service that

[1] Vgl. Hanafy, Mohamed and Ruixing Ming: “Machine Learning Approaches for Auto Insurance Big Data”, 2021
[2] BCG: „What lies beyond digital for insurance operations”, 2020

adds significant long-term value to the customer experience. Customers will be able to record claims based on augmented reality and track the status of claims processing at any time. The claims process - from FNOL to payment - will only take a few minutes and the manual processing time for claims handlers will be significantly reduced through partial automation - or can be completely eliminated through full automation.

But what concrete benefits does process optimization offer insurance companies to justify the high initial investment? We see several powerful arguments in favor of this.[3]

Scalability and reliability: Automation modules can be integrated into a wide variety of processes: by learning a process, they can perform various activities and thus be interchanged with each other. Already, about half of companies benefit from this ability to adapt, although the scaling phase is likely still to come. At the same time, software robots are extremely reliable, especially in automating processes that are error-prone when performed manually. With the appropriate competencies, work steps are executed instantaneously. Bot-based document review is over 50 times more accurate than human review, so error rates of less than one per thousand are realistically possible. [4]

Time: Process automation is not only significantly more accurate; it also shortens processing times significantly. Standard processes can be executed much faster and risks that arise from human intervention in processing are eliminated. Companies that use AI in accounting, for example, record up to 40% shorter process times. Across the board, four out of five companies using software robots achieve significant time savings.[5]

Employee satisfaction: Today, an average employee spends up to 80% of his or her time on monotonous, repetitive tasks. When these are eliminated, employee satisfaction generally increases. 9 out of 10 executives surveyed report a similar increase in employee satisfaction - in more than half of the companies even by at least 15%.[6] The main reason for this is that human talent can be used for innovation development and solving challenging problems. For example, two-thirds of companies report that software robots enable them to use resources for meaningful and value-creating processes instead of repetitive tasks. [7]

Costs: The initial investment required for process investment and the effort required for effective conversion often appear prohibitively high. However, these are usually more than compensated for by cost savings after full implementation. For example, process automation enables insurers to reduce the cost-to-serve per customer by 30-50% - primarily through organizational streamlining and increased focus on value-added customer interactions.[8] Clerks can make the best use of their expertise where it adds tangible value, rather than performing repetitive tasks.[9] In financial services companies, cost savings of 40-75% have

[3] See Rashmi Ravindranath, Kulkarni: „Review Robotic Process Automation Among Artificial Intelligence", 2020
[4] See Eulerich, Marc et al.: "A Framework for Using Robotic Process Automation for Audit Tasks", 2021
[5] See Caton, Michael: „Embracing efficiency through robotic process automation", 2017
[6] See Forbes Insights: "Accelerating Business Value With Intelligent Automation", 2019
[7] Vgl. PWC: "Robotic Process Automation (RPA) in der DACH-Region", 2020
[8] Vgl. BCG: „What lies beyond digital for insurance operations", 2020
[9] Vgl. McCuan, Jess: „The ROI of intelligent automation: why projects pay for themselves", 2020

been realized through successful process automation projects, some of which have paid for themselves in just a few months. Comparable effects can also be seen in other industries, such as telecommunications. Telefónica O2, for example, achieved a return on investment of around 200% just one year after automating processes.[10]

The flip side of automation is the often-articulated concern of workforce consolidation. About a quarter of existing roles will struggle to stay in their current positions, necessitating extensive retraining programs. However, AI-driven automation offers the greatest potential for efficiency gains by supporting, rather than replacing, human workers. As already mentioned, for example by taking over repetitive tasks and thus freeing up capacities for more value-creating, cognitively demanding tasks.

AI-supported process automation leads to direct efficiency gains across the board through significantly increased productivity per employee while at the same time improving the customer experience. For existing employees, this means an upgrade and further development of their role profile. Based on this, especially for companies with a large volume of claims of low and medium complexity, then insurers should address the topic of process automation in order to better realize strategic goals.

State-of-the-art technologies enable process automation:

Automation is enhanced and facilitated by the use of AI. For a long time, it was considered necessary to introduce new systems in order to be able to implement new types of AI. However, this is not necessary at all: new software that works with artificial intelligence is connected and used via universal APIs. A wide variety of AI subfields can be identified:

Machine Learning (ML) refers to the ability of machines to recognize and generalize patterns and relationships based on past experience (training data). With the help of this then they can, for example, calculate probabilities of occurrence for a wide variety of scenarios and make predictions about loss events.

Natural Language Processing (NLP) combines methods from linguistics with modern computer science and AI to enable the most extensive communication possible between humans and machines via speech. For example, spoken text and writing - especially text contexts - are automatically understood, analyzed and converted into the respective target format for further processing.

Artificial neural networks are abstraction models of the human brain consisting of artificial neurons. These link up as soon as the AI learns something new and information is processed. In this way, the human learning process is simulated and transferred to machines.

Deep Learning (DL) represents a specialization of ML, in which neural networks are used to analyze large data sets, make predictions and question them. Compared to machine learning, humans no longer intervene in the learning process; the AI repeatedly links what it has learned with new content itself and thus learns completely independently.

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[10] Vgl. Kasic, Ajla: "Robotische Prozessoptimierung von Aufgaben am Beispiel von Back-Office Prozessen", 2020

The use of artificial intelligence results in a drastic change in the workforce based on a potentially reduced headcount. Staffing levels in underwriting, on-boarding, claims processing and policy administration are estimated to be reduced by 30-50%. However, as a result of the use of AI, there will be a need for increased staffing in other areas, such as user research or data analytics. Thus, staffing needs are merely shifted and concerns about redundancy remain unfounded. Nonetheless, a significant skills shift is required, which poses major challenges for HR and training departments.

Further potential for automation in the context of AI emerges from smart contracts built on blockchains. These represent the maximum in automation, as personal contact between company and customer is completely eliminated. Through codes written on blockchains, machines are empowered to perform certain actions only when pre-determined conditions are met and verified. These actions could be, for example, releasing funds or sending notifications to specific individuals. This can open up new opportunities, especially in claims processing, as secure matching of contracts and claims on the blockchain can automatically validate and only pay out claims that are valid.[11]

Process automation in established business & IT organizations.

Despite all the benefits, explanations and praise for AI, the question remains as to how the introduction of AI-based process automation can be implemented in practice. Legacy systems of insurers often represent a major obstacle here. A complete realignment of the IT systems of large insurance companies is hardly feasible in reality and would entail high operational and financial risks. The solution must be to connect to the existing systems - and to do so universally, simply and pragmatically. This is exactly the approach that more and more InsurTechs are addressing, intending to close the gap between AI/process automation know-how and problem understanding of established insurance companies and their IT systems.

Pursuing ambitious goals and being bold with the use of AI is the key to success. Many companies are initially put off by new types of technology instead of exploiting their potential. It is important to think holistically and consider customer needs along the entire customer journey and any impact on all areas of the business when making investment decisions. Agile approaches with the formation of cross-functional, permanent teams with aligned goals, incentives and ways of working promote the implementation of AI in business processes. Clear cross-functional, benefits-based investment decisions for AI and complementary technologies is also a key success factor.

The potential applications of AI are vast here. Along the customer journey, some can be observed.

With "**proactive and preemptive services,**" it is possible for insurers to avert potential losses at an early stage by using AI to issue an early warning of dangerous events, such as natural disasters.

[11] Salahshor, Abtin und Scherrer, John: „Smart Contracts, Insurtechs and the Future of Insurance", 2020

AI-powered chatbots are forming new, automated customer interfaces. Answering common questions and problems, as well as initial recording of simple business processes such as claims reporting, is automated. According to a survey, 74% of consumers are willing to seek advice from AI.

Technology-supported damage assessment automates the analysis, evaluation and initiation of follow-up processes for (simple) claims, in some cases completely. For example, photo-based appraisals and cost estimates are generated independently, requiring no input from a human claim handler. Often, even the subsequent billing and payment of claims to the customer is fully automated.

With "**Dynamic Mass Personalization**"[12] the customer receives a specific level of service regardless of their insurance status. Instead, attention is paid to the individual circumstances of the claim. For example, customers with complex claims receive personal calls from a claim handler, while for simple claims the processing (assessment, payment, etc.) runs darkly through the systems and the customer simply receives a link to live tracking in the spirit of transparency learned today from Amazon, DHL and co.

With **live tracking**, it is possible to inform the customer in the simplest way about the current status of the processing of his case. As more and more customers expect transparency and traceability of processes, this in particular represents a sensible investment.

Concrete use cases in which the implementation of AI and process automation has taken place can now often be observed in reality. For example, there are more and more companies offering software that can be integrated into an existing IT infrastructure via open and standardized interfaces, such as standard APIs. The software's databases can use AI and machine learning to learn from historical data and apply their insights to new claims. Additional status tracker modules introduce a live tracking capability. As developers say increased automation of claims processes also increases the risk of fraud, fraud detection is becoming an increasingly relevant use case for AI-based process automation. Here, hit rates of over 75% are achieved in some cases - and in split-second matches that would be humanly impossible. A further expansion step is the automatic text recognition of handwritten texts. Providers now achieve similarly high "hit rates" here as with printed and spoken text. This means that customer inquiries, claims reports, etc. can be read in and processed almost regardless of format. "shift", "claimsforce" or "omni:us" are just a few providers that have specialized in process automation software.

omni:us's technological capabilities, for example, coupled with its deep technical expertise in pre-modeled process and decision-making procedures, allow an extremely rapid entry into automated claims processing, from the notification of a claim to the payment of the claim. Modules can be flexibly embedded into the existing surrounding system landscape as desired - independent of core systems and surrounding systems. omni:us offers standard interfaces for many common core systems (e.g. for Guidewire), which also accelerates integration. A go-live on selected lines of business can thus be realized in just a few weeks.

[12] Vgl. BCG: „What lies beyond digital for insurance operations", 2020

A frequently used best practice example from the insurance industry for AI-supported process excellence is Lemonade. Among other things, Lemonade enables its customers to conclude contracts completely automatically, report claims directly and fully digitally via the Lemonade app, or answer all relevant questions and service requests via chatbot. Furthermore, the AI checks the reported claim fully automatically (partly in real time) and triggers the direct payment of the benefit. In complex claims, the case is forwarded in a targeted manner to the most suitable claims expert. Thus, humans and AI form a coordinated unit to create the best possible customer experience and process claims efficiently. For example, Lemonade holds the record for the fastest claims processing ever: within 3 seconds of reporting the claim, the claim was analyzed, assessed, and payment initiated. Perhaps a PR stunt, but certainly a glimpse of where the journey of AI-based process automation can go.

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