Building a better working world

Insurtech: assembled for takeoff?

The German Insurtech universe and its disruptive potential

Executive summary

Insurtech has become the new rising star of the FinTech community. The term, however, did not even exist until very recently. Incumbent insurers were well aware that technological and digital challenges were lying ahead but had largely been excluded from the developments in the FinTech sector. However, within the German insurance market, quite a large number of Insurtech start-ups have emerged since 2012.

Our analysis identified a total of 18 German Insurtech start-ups. On the basis of disclosed funding data, total investment has reached €53.52m to date, most of which was raised in 2015 by a group of just five Insurtech companies.

Overall, German Insurtech providers almost exclusively operate directly with end customers. For this reason, distribution and sales are the areas most affected in the traditional value chain. The majority of players measured by number as well as by maturity fall into the aggregator and personal insurance management app clusters.

However, activity on the international markets suggests an increasing impact on business models and the insurance value chain as a whole. The bottom line is that Insurtech is here to stay and becoming more relevant each and every day.

The digital imperative in insurance

Terms like disruption, digital imperative and disintermediation of the value chain have only entered the insurance sector in comparatively recent times. While other areas of financial services, such as payments, have already been significantly impacted by new entrants, insurance is only starting to grasp the velocity and scale of upcoming changes.

International Insurtech context

Like in banking, the barriers to adaption and change in insurance are high, but so are the resources and available capital, even in difficult economic environments. Insurers across the globe have spent billions of euros to become more flexible, efficient and profitable. To put this into perspective, only a total of US$4.63b[1] was invested in insurance FinTechs, or Insurtechs, globally between 2008 and 2015.[2]

According to CommerzVentures, the investment vehicle of Germany's Commerzbank, this investment ratio is twelve times lower than that of the global banking industry. Also, very few unicorns (start-ups valued above US$1b) currently concentrate on the insurance industry (a total of four), whereas in banking the number is in the low double-digit range.[3]

However, several indicators lead us to believe that Insurtech is picking up speed. For instance, the global funding of Insurtechs in 2015 alone accounted for a large part of the overall funding of US$4.63b raised since the early 2000s. Other examples in this regard are the launch of Startupbootcamp Insurance in London in 2015 or the foundation of Axa Strategic Ventures in that same year. Similar formats are likely to emerge elsewhere on both the FinTech and the investor sides. Most likely these will come from incubator models similar to those already in the market, such as Allianz Digital Labs and Allianz Digital Accelerator (founded 2013).

Drivers for the emergence of the Insurtech sector

At its core, the drivers that accelerate Insurtech are very similar to the ones that underlie the rapid expansion of FinTech. Generally, we see three trends that will have a strong impact in the future, namely connectivity, the consequences of the financial crisis with the resulting pressures on interest rates, and customer dissatisfaction with insurance.

Connectivity and data

The world in general and customers in particular have become more connected. Starting with the availability of connected and mobile devices, customers increasingly access and demand digital offerings, as shown by the EY FinTech Adoption Index.[4] This generates a wealth of new, partly unstructured data, which complements the databases of incumbents.

1 http://insights.venturescanner.com/category/insurance-technology /, retrieved 29 march 2016
2 http://de.slideshare.net/JenniferLanger/commerzventures-white-paper-on-insurancetech?from_m_app=android, retrieved 28 March 2016
3 http://finovate.com/fintech-unicorn-list-q2-2015-46-arrived-37-closing-in/ , retrieved 29 March 2016
4 http://www.ey.com/GL/en/Industries/Financial-Services/ey-fintech-adoption-index , retrieved 28 March 2016

Internal effects of the financial crisis
Banks and insurance companies have weathered the worst crisis in a generation, but many players continue to struggle with its consequences, especially in Europe. Among other things, this includes increased regulatory scrutiny, fiercer regulation, difficult market environments and weak market performance. Due to these factors, incumbents were not able to invest in the products, platforms, technology and channels required to meet customer expectations.

Customer dissatisfaction
The financial crisis and the worsening reputation of the financial services industry have created an environment of mistrust towards incumbents and a willingness among customers to try out new products and providers. This is particularly impactful in insurance where traditional distribution channels involve a low level of customer interaction and thereby a low level of customer ownership.

Entry points for Insurtech competition

The innovative self-perception and out-of-the-box thought processes that are being cultivated in start-ups have provided Insurtechs with powerful ideas and tools to identify inefficiencies and harness improvement potential in insurance. Insurtech business models mainly refer to three entry points for incumbent businesses: monetization of data, infrastructure replacement and disintermediation of the value chain.

Monetization of data
Customers increasingly create their own data, democratize it, turning their backs on paid subscriptions in favor of alternative subscription models based on advertising, monitoring and reselling of data to third-party companies. This holds particularly true for emerging products in the areas of telematics, pay-as-you-live or situational insurance. Smart solutions facilitate the use and integration of such products into the underwriting operations of incumbent insurers and offer the best entry points for Insurtechs.

Infrastructure replacement
The most radical emergent Insurtech (and established non-financial services) players are frustrated with existing infrastructures and, as a result, attempt to circumvent them completely. In their mission statements, many Insurtech players have declared their dissatisfaction with the way customers are treated by incumbents and are using this strategy to position themselves vis-à-vis the established players. However, given the current market maturity, we are only seeing early signs of improvement (for example in sales and distribution or repair service infrastructures).

Disintermediation of the value chain
While not all Insurtech models intend to reinvent insurance from scratch, some business models are based on the concept of circumventing incumbent insurers. At the same time, clients are increasingly willing to accept less prominent providers in terms of size, trust, familiarity and credibility. This enables Insurtechs to take over important steps in the value chain and offer additional value-added services, often at the expense of the insurer.

Insurtech in Germany

Disruptiveness of Insurtech business models

Despite the fact that Insurtechs attempt to channel parts of insurance revenues through their own books, every German Insurtech business model has to cooperate with incumbents in one way or the other (as opposed to individual players in the US, for example). Based on this existing interdependency, we classify every Insurtech into one of four business model clusters. The clusters are determined by the depth of value chain disruption on the one hand, and the degree of disruptiveness of their services on the other hand.

Supporters
Supporters are players who support and complement existing market participants or products through their own services to create, for example, higher quality or efficiency of the insurance service or experience. Consequently, their impact on the value chain and their disruptiveness are comparably low. This is the reason why in many cases Supporters can be seen as straddling the line between belonging to the Insurtech market and being providers of specific insurance technology products (such as IT platforms).

eMarketplaces, Aggregators and Intermediaries
eMarketplaces, Aggregators and Intermediaries are players who use existing services or information for aggregation purposes or to route business to core providers. Typical examples are not only limited to online comparison platforms, but also include any other form of digital brokerage services. Germany has an extraordinarily strong standing in this area and is one of the markets with the highest adoption rates of such services (for example, when compared to the US).

Disruptors
Disruptors are players influencing the full value chain of a service or parts thereof and, in doing so, have a "disruptive" impact on the existing market environment. Typically such Insurtechs disintermediate or replace incumbent infrastructures and are accompanied by a deep impact on the value chain of incumbent insurers. Currently, there are few niche players in this field and, in comparison to the banking industry, Disruptors are currently not yet seen as a major threat or game changer to the overall insurance value chain and business model.

Innovators
Innovators are players inventing services or products outside of the existing value chain, challenging incumbent business models. The impact on the value chain often cannot be reliably predicted, but it is likely to be game changing for incumbent business models. So far, such players are observable in the broader FinTech area, for example harnessing the concept of distributed ledgers. German Insurtech players exclusively targeting the insurance sector are not observable as of yet. Therefore, this report will not address this cluster any further for now.

The German Insurtech universe

For this report we analyzed 18 German Insurtechs. This represents a solid sample size of the current landscape of players in the market. To be included in the analysis, the Insurtechs had to meet the following requirements:

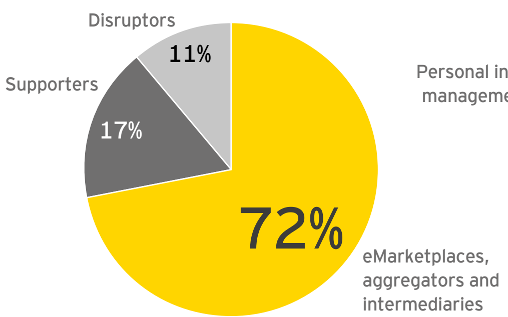
- Recently founded, early or later-stage start-up companies, normally with limited human, technological and financial resources
- Founded by independent partners and not as a direct or indirect spin-off from established companies
- A ready-to-use product or service offering that is actively marketed
- Exclusively focused on core insurance operations (as opposed to asset management, (IT) security, etc.)
- Exclusively focused on insurance products (as opposed to personal finance management solutions with appended insurance functionalities, etc.)
- Headquartered in Germany
- Funded by investors or self-financed
- Market entry within or before Q1 2016

These strict selection criteria led to the exclusion of several services that are being backed by incumbent insurers or brokers, especially in the area of digital distribution. In many regards, these offerings resemble Insurtech services, and are in some cases marketed as such. However, they are not subject to similar resource and market constraints as Insurtechs, and are thus hardly comparable.

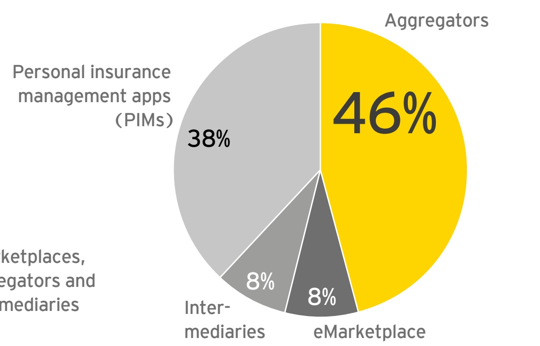
Moreover, the German Insurtech market is very dynamic, and thus at the time of writing at least five Insurtechs announced that they would shortly launch their services. The cutover date for this analysis is therefore end of Q1 2016.

Out of the 18 German Insurtechs selected, only around 30% do not belong to the eMarketplaces, Aggregators and Intermediaries cluster. Specifically, these are three supporters and two disruptors.

Number of Insurtechs per cluster



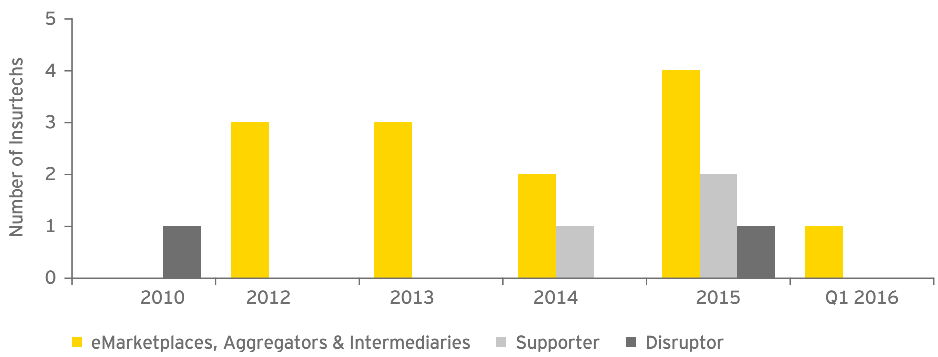
Number of Insurtechs per subsegment



As for the eMarketplaces, Aggregators and Intermediaries cluster, one subsegment clearly dominates, namely the Aggregators. This subsegment consists of online aggregators and price comparison websites and personal insurance management apps (PIMs) with six and five players, respectively. The eMarketplaces and Intermediaries subsegments are underrepresented with only one player each.

German Insurtech was pioneered as early as 2010, when Friendsurance introduced the peer-to-peer (P2P) model to the insurance sector. However, the time series of foundation years identifies this as a case of very early adoption. Of those Insurtech companies still operational today, the first actual foundation wave started in 2012 with three Aggregators. Since then the number of new Aggregators has grown at a comparably stable rate every year, although since 2013 this growth can mainly be explained by PIMs entering the market. This certainly hints at a trend towards an increasing complexity of Aggregator business models. Moreover, in 2016 new players have announced their market entry, most of whom are Aggregators and eMarketplaces (not shown in the graph).

Year of foundation by Insurtech cluster



Although still at a very early stage, since 2014 the market has seen the increasing entry of players from the Supporter cluster. Although this cluster is still underrepresented overall, an increasing maturity and growing awareness may be beneficial for the development of such models. Moreover, a new Disruptor entered the market in 2015 after almost five years, supporting the indication of an increasing complexity and novelty of Insurtech business models overall.

This hypothesis is also supported from a product and technology perspective. Until today, Insurtechs have mainly chosen apps and websites as product channels, but increasingly rely on more complex APIs and software or platforms. To put this into perspective, traditional Aggregators have always operated on comparably simple websites with relatively simple algorithms.

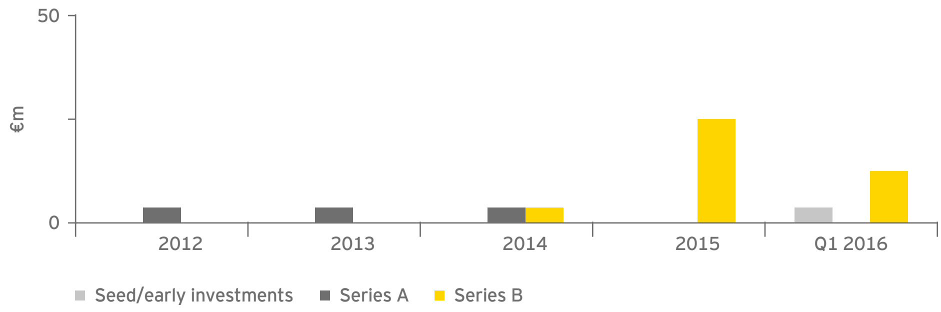
All in all, with the emergence of PIMs, mobile apps have become more common and together with websites account for more than 70% of German Insurtech products. Futhermore, it is interesting to see that Disruptors exclusively operate with platform concepts, meaning that they group stakeholders together in order to channel business more effectively to partners. Supporters, however, not surprisingly offer software and API solutions mainly in the product management or white-label distribution field.

Means of Insurtech product delivery

	(Mobile) App	Platform	Software or API	Online sales channel
Supporters	-	-	3	-
eMarketplaces, Aggregators & Intermediaries	6	-	-	7
Disruptors	-	2	-	-

Between 2012 and Q1 2016, the total disclosed investments in German Insurtechs amounted to €53.52m.[5] Out of the 18 German Insurtechs, only seven have disclosed their investments partially or completely and a minority claims to be self-financed. Despite the rough nature of this database, a clear surge in funding in 2015 and good progress in Q1 2016 can be identified.

Disclosed investment amounts and dates



Despite the early maturity stage of the overall German Insurtech market, five high-growth Insurtechs achieved series B funding as early as 2015 and Q1 2016. These are Friendsurance, Finanzchef24, Clark, Knip and Schutzklick, four of which are either Aggregators or PIMs. These four have experienced especially strong growth, as they were all founded in 2012 or later. Their performance appears even stronger when compared to the rest of the Insurtech peer group. Together, the five most mature German Insurtechs attracted investments of €47.45m, amounting to as much as 88% of the total disclosed funding.

5 Total amounts include investments in originally Swiss Insurtechs FinanceFox and Knip with funding values of €5.06m and €16.07m, respectively. Both start-ups expanded to Germany very soon after foundation and maintain German subsidiaries. Excluding both players, total funding volume would stand at €32.39m. Total series B funding in 2015 would reduce to €7.9m, and seed funding in 2016 would reduce to €0.

Business model analysis per cluster

Supporters

We identified three German Insurtech supporters. They account for as little as 17% of the overall German peer group. At the same time, supporters show very little diversity in their business models as they all offer software solutions, either for incumbents directly or for broker distribution operations.

Two of the three Insurtechs in this cluster, massUp and kasko, offer white-label solutions for small ticket and situational insurance. The third Insurtech, virado, offers a digital product catalogue of small-ticket insurances which can be used by brokers to enable digital distribution channels and additionally offers a barcode scanning app. This is particularly interesting in terms of convergence at the point of sale of the small-ticket insurance product and the acquisition process itself. Having initially started as warranty extension offerings, today insurance coverage can be directly purchased after the buying process or at a later point in time if necessary. Internationally, however, the idea is more widespread, with players such as Trōv having received a total investment of US$20.5m in four rounds since 2011.

eMarketplaces, aggregators and intermediaries

This Insurtech cluster represents competitive, digital distribution platforms. The barriers to entry are comparatively low and by international comparison, German FinTechs and Insurtechs have built up leading capabilities in this field. Unsurprisingly, this cluster therefore constitutes the largest group of German Insurtechs, representing almost 70% of all players and having raised the vast majority of investments. Their solutions at this stage mostly combine automated and manual process steps, but the aim is often the complete automation of chat protocols or price and coverage comparisons.

As is the case with other regulated industries, eMarketplaces require a regulated entity issuing and selling its own products and services on the respective website or app. As no Insurtech has so far attained a full insurance license, no eMarketplaces in the stricter sense exist in Germany. However, the close cooperation between Community Life and SwissRe comes as close to such a model as currently possible. Moreover, for certain niche products, an increasing number of web portals offering products of only one insurer per product line have emerged.

Such offerings mainly relate to small-ticket and situational insurance products. These product opportunities are opened by the existence of new hardware itself (mobile and device insurance) or the changes they have on consumers' behavior, such as the sharing economy (for example shared rides) and connectivity (for example short-term sports trip insurance). One of the most mature Insurtechs in Germany, Schutzklick, belongs to this group having raised a €8m series B and a total of €11.5m since its launch in 2012.

In contrast to the above, German Aggregators are well-established front-end channels and have put the traditional incumbents' distribution networks under substantial competitive strain. We see two main forms of Aggregators. The first are price comparison websites, which have existed since the early 2000s. The other, more recent, development is PIMs, which co-exist with personal finance management apps and only differentiate themselves by having an exclusive focus on the administration of insurance contracts. These apps constitute a recent and aggressive business model – the majority of players were founded in 2015. In the German Insurtech universe they are the second most common business model and have had successful large investment rounds in a short period of time. Examples are Knips' series B funding of around €14m within roughly 2 years of operation, or FinanceFox's recent venture funding of about €5.06m. An additional example with an undisclosed investment amount is GetSafe.

Essentially, these players enable consumers to manage and administrate their personal insurance contracts and, where possible, to identify and harness optimization potential. Especially in the German market, the traditional non-transparency of commissions and the special market structure favor the strong positioning of the PIMs in international comparison.

From the point of view of end customers, the value proposition of PIMs is much higher in terms of functionalities and convenience than is the case with simple aggregators. Often, PIMs consider more ranking factors than only price, such as product coverage. This is accompanied by a surprising level of diversity in service levels and revenue models. Differences in service levels include: automatic vs. upon-request optimization alerts, automatic vs. manual approval of policy acquisitions, human vs. robo-advice in consultations, access through mobile and/or PC and different enabling functionalities for claims management and first notice of loss (FNOL).

Challenges to Aggregators, and especially PIMs, mainly arise from regulation. On the one hand the adoption of the Insurance Distribution Directive (IDD) will change the revenue models Aggregators and PIMs can apply. PIM solutions that do not rely on sales commissions may have a particular strategic advantage. Examples for such alternative models are the simple charging of administration fees or profit sharing with incumbent insurers.

An additional area of regulation governs consumer protection. Aggregators in general often serve consumers as information sources, but have been criticized by the European Commission (EC) for a lack of transparency and objectivity of their services (not only regarding commissions) and an inappropriate reliance on price as ranking factor.[6] In addition to this, the Joint Committee of the three European Supervisory Authorities (ESA) admits a "regulatory gap" in automated advice services and will put aggregators under closer regulatory scrutiny.[7]

Another niche in the German Insurtech space is distribution solutions for both general and exclusive distribution brokers. Such solutions allow digital intermediary channels to interact more efficiently with customers and make interaction with local brokers more convenient and trusted. In fact, Insurtechs can offer an attractive lead management process through the combination of competitive bidding mechanisms, online access and technology-enabled human-to-human consultations. Our analysis revealed only one such player among German Insurtechs, passt24, but incumbents have also started to operate in this area. For example, Allianz Digital Accelerator developed Seas Wien, which operates in Vienna, Austria.

6 http://ec.europa.eu/finance/consultations/2015/retail-financial-services/docs/green-paper_en.pdf, retrieved 11 February 2016

7 https://www.eba.europa.eu/documents/10180/1299866/JC+2015+080+Discussion+Paper+on+automation+in+financial+advice.pdf, retrieved 11 February 2016

From discussions with various incumbents as well as observations during recent leading insurance and Insurtech events, it appears that incumbents are very much adopting a wait-and-see approach to the Aggregator segment by opportunistically teaming where short-term benefits are achievable. With regards to the long term, insurers prefer to focus on their own digitization activities to maintain or regain control of customers and distribution channels. How this will turn out in the long term is yet to be seen.

Disruptors

Most Disruptors are single solutions and it is difficult to cluster them into business model archetypes. Nevertheless, it is important to recall that the disruptiveness and value chain impact of these models are substantial and a closer look reveals significant value chain impact. Currently, two German Insurtechs can be classified as Disruptors.

The German Insurtech landscape is certainly dominated by peer-to-peer (P2P) insurer Friendsurance, who piloted the concept in 2010 and has since seen many imitators internationally. P2P insurance mediates between incumbents and customers by setting up groups of people who settle smaller claims within their group and only go back to the incumbent insurer for the settlement of big claims. Technically, this is done through an increase of the excess. The social pressure within the group is intended to mitigate fraudulent behavior and decrease claims management costs at incumbent level. Prudent consumers get refunds at the end of the year if the pooled money was not consumed by claims.

Another Disruptor is the claims catalyst Unfallhelden which is a platform taking over the responsibility for car claims settlement with the incumbent insurer. By providing local garages and service providers with a software platform on a subscription basis, claims catalysts disintermediate incumbents' repair networks to their own favor. Revenues are in this case drawn from software licenses charged for the usage and connection to the local repair network.

Insurtech impact and implications

To this day, both in Germany and internationally, Insurtechs have, with very few exceptions, not developed stand-alone business models. Rather, as in the broader FinTech area, Insurtechs occupy profitable niches and value-added services instead of assuming heavily regulated and capital-intensive underwriting or risk ownership responsibilities. Two exceptions that already have or are in the process of obtaining a fully-approved and regulated status as insurance carriers are Oscar and Lemonade in the US. However, particularly in Germany, heavily regulated functions will likely remain with insurers for the near future.

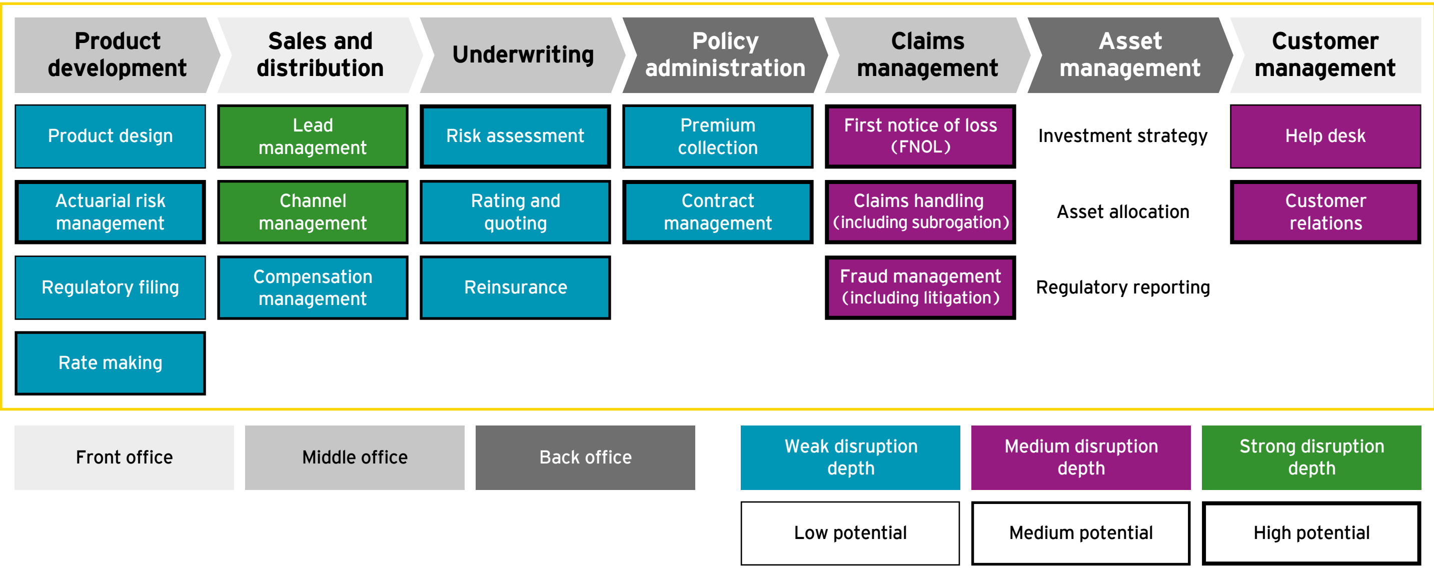
Insurtech impact on the insurance value chain

Moreover, German Insurtechs limit their product offering to personal, non-life insurance, with only the exception of Community Life. This strong focus on specific product lines is due to the fact that all Insurtechs are exclusively focused on improving end customers' experience with incumbents. Nevertheless, Insurtechs do not offer real B2C models, because they lack the capabilities and regulatory approval to issue insurance products themselves. For this reason, all German Insurtechs function as intermediaries, using their strong standing with end customers to negotiate income streams with incumbents.

More complex environments like wholesale, life insurance and reinsurance are not yet part of the German Insurtech ecosystem, partly because of the lack of financial power, capabilities and regulatory approval, among others. This is in line with the developments in the broader FinTech area, in which B2B and wholesale business models have only slowly spread. In the dynamic Insurtech environment, this serves as supporting evidence that no major shift towards non-personal insurance should be expected in the short term. However, international Insurtechs again prove that such models can operate successfully as examples like AnalyzeRe or QuanTemplate show, among others.

Value chain impact

In general, the impact Insurtechs have on the value chain of incumbents is still very limited. From this low penetration level, the growth opportunities are however immense. The following graph highlights the relationship between the degree of disruptiveness of Insurtechs and the potentials for further disruption of the value chain.[8]



The provided impact estimation refers to both monetary as well as non-monetary effects. Three main findings arise from this:

- Insurtechs assume ownership of customer relationships across the value chain
- Insurtechs operate in proximity to end customers, and thus offer front and middle office functionalities, with only limited depth of disruption
- Exceptions apply where disruptors have successfully entered the market

Erosion of the customer relationship

To date, the largest disruption of the incumbent insurance business relates to the disruption of the customer ownership. Such tendencies can be seen in sales and distribution, customer management and claims management.

Overall, the highest impact by Insurtechs can be attributed to sales and distribution functionalities and in particular to PIMs. These actively and continuously manage the end customer relationship and are thus able to gather new and valuable unstructured data

8 It is important to note that asset management functionalities are not part of this analysis due to the strict Insurtech selection criteria applied in this research. The fact that asset management solutions find broad application in areas outside of insurance make FinTechs in this segment obsolete for this German Insurtech universe. However, this does not mean that no feasible and applicable FinTech solutions that have impact on the incumbent value chain exist. Additionally, P2P Insurtechs like Friendsurance or US American Lemonade may find attractive applications for example short-term liquidity.

about their customers. This provides them with good quality leads. At the same time, incumbents become more irrelevant and uninteresting for end consumer, and are thus limited in their possibilities to offer customer-centric products and services.

A second important interface to customers is claims management, because the convenience of claims settlement is key to the customer experience. Our analysis shows a medium impact on claims management, which is mainly driven by PIM value-added services in the FNOL area. For incumbents the customer relationship level is further reduced by the representation of the client through the intermediary, as is the case with claims catalysts or PIMs. However, in exchange, incumbents benefit from more standardized claims settlement processes and potentially less fraudulent claims.

Similar benefits for incumbents arise in the area of customer management because Insurtechs assume day-to-day communication, contract maintenance requests and similar commodity services. Parallel to the above, the downside of such efficiency potential is the further loss of control over the customer relationship.

Prevalence of front-office impact

Almost all Insurtechs concentrate on service models that are built around the end-customers' needs and service experience. As a consequence, the majority of the impact that Insurtechs have on the value chain is in the front-office realm. However, such front-office functionalities only have a limited depth of disruption for incumbents when compared to back-office efficiencies.

Today, the majority of German Insurtechs belong by definition to a cluster with a comparably low depth of disruption. Nevertheless, the high rewards lying in back and middle-office improvements will sooner or later attract more disruptive Insurtechs. An analogy can be seen in early payment FinTechs or increasingly in the banking sector, where FinTechs first occupied client interfaces and have only provided processing or administrative services paired with advanced regulatory models at later maturity stages.

Exceptionally disruptive Insurtechs

Taking the perspective of the largest possible disruption by individual Insurtechs, one does not look at PIMs but at the Disruptor cluster. As a matter of fact, German Insurtech Disruptors do not only impact front-office functionalities, but have strong back-office impact. On top of that, Disruptors are the Insurtechs with a much stronger impact on core insurance functionalities like underwriting, policy management, and claims management.

In terms of overall depth of disruption, Friendsurance appears to have the most impactful business model. It is the only Insurtech to significantly impact underwriting processes and at the same time has significant impact on policy administration and claims management. On the other hand, Unfallhelden combines strong customer advocacy with a high impact on claims management and settlement. The circumvention of incumbent repair networks in particular allows for significant financial, organizational and operational disruption.

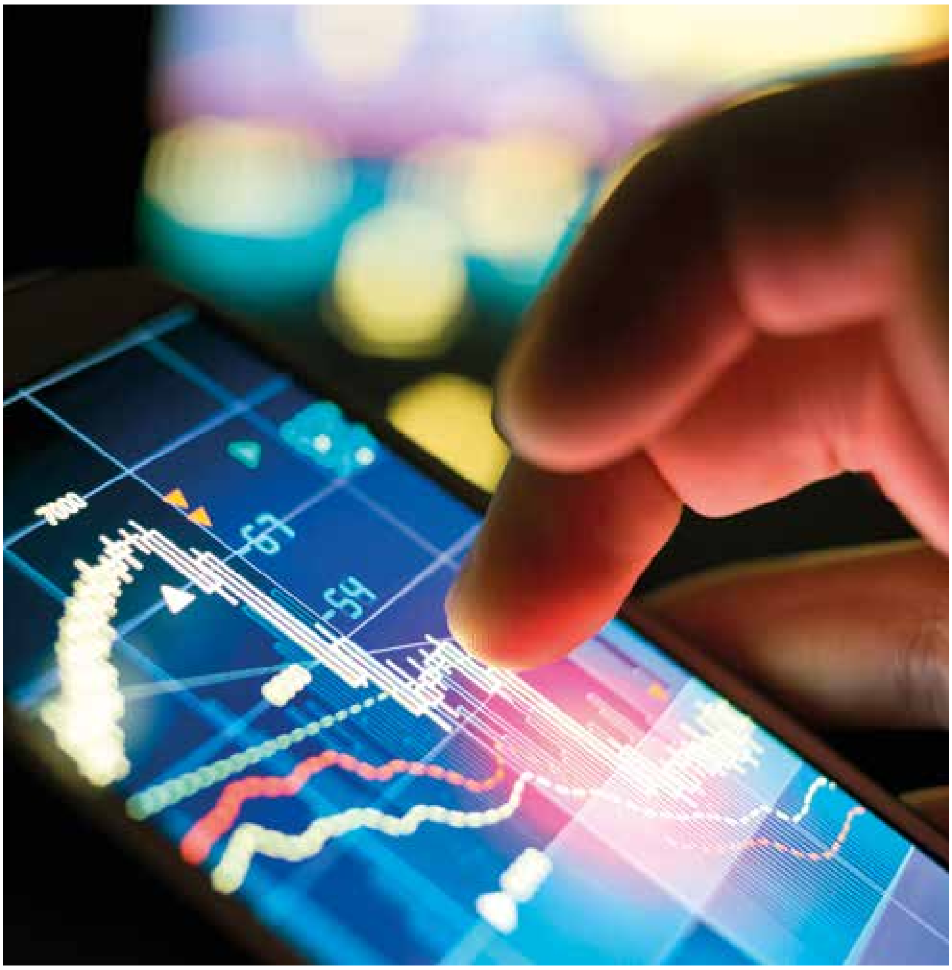
Future opportunities

The early maturity of the German Insurtech market leaves plenty of room for new entrants. With the exception of the PIM and Aggregator cluster, very few players exist in the respective niches of the German market, so that increased competition in selected areas could certainly nurture additional players.

On top of that, many unexploited opportunities exist for new Insurtech business models in Germany. In some cases, interesting Insurtech models from international players have not been adopted in the German market yet. In other cases, further opportunities have not been identified at all yet. In general, three major areas for new business opportunities exist. These are Big Data and analytics, data-driven products and back office-supporting functionalities.

Big Data

Big Data has so far been a major concern for incumbents and international Insurtechs. These players have both uncovered and harnessed new data sources as well as changed the way the wealth of insurers' data is used and integrated. So far, unstructured data use in Germany mainly occurs in digital customer interfaces and through connected devices. However, this is only one part of the Big Data story.



Significant benefits could be drawn from improvements in back-office operations, especially in product development, actuarial and underwriting as well as fraud management. For example, integrated data analysis of customers' online behavior might reveal new product needs and enable improved customer targeting through improved customer analytics. Early adoptions in underwriting and actuarial functions by, for example, AdviceRobo are beneficial in similar ways, for example through real-time underwriting, fraud pattern recognition and enhanced pricing mechanisms.

So far, German FinTechs have not managed to find their way into Big Data applications. Such models are instead enacted by incumbents and international Insurtechs. However, an area in which analytics might offer entry points for German Insurtechs is asset management, in which German FinTechs have found a comparably competitive standing and value proposition.

Data-driven products

Data-driven insurance products prevail in health and property/casualty product lines and include all sorts of usage-based or discount models, for example telematics, fitness trackers, diet surveillance and sleeping behavior apps.[9] The objective of such products is to retrieve, often in real-time, and subsequently monetize customer data obtained mainly from usage patterns of mobile or other devices.

On the customer's side, data-driven discount models such as telematics reward insurance policy holders for desirable driving behavior and grant them discounts on their premiums. However, the upside for the insurer (or Insurtech) is much larger, for example in terms of claims management savings, but also in accuracy of actuarial models, targeted advertising, and other applications across the value chain.

Data-driven products can be used by incumbents for various purposes: discounting premiums or indirectly, by offering more suitable products; creating new B2B and B2C revenue pools (such as add-on services); conducting leading research; reducing cost through improved actuarial models and much more. Data-driven products therefore not only feed into Big Data and the analytics capabilities of insurers, but offer extensive opportunities for themselves.

The disruptive potential of data-driven products is not fully exploited yet and many applications are still to be optimized or discovered.

Data-driven products are at an early development stage in Germany. An example for an early adopter in the Insurtech area is safe.me[10] which aims to develop an adaptive and forward-looking prognostics algorithm for smart insurance coverage. However, the current landscape is dominated by incumbents and international Insurtech players.

9 For insights on the implementation of pay-as-you-live concepts in insurance, please see our paper "Introducing 'Pay As You Live' (PAYL) Insurance" under http://www.ey.com/Publication/vwLUAssets/EY-introducing-pay-as-you-live-payl-insurance/$FILE/EY-introducing-pay-as-you-live-payl-insurance.pdf, retrieved 11 February 2016

10 Safe.me is not included in the above landscaping, as the company did not have a ready go-to-market service offering at the time of publication. It is however mentioned for reasons of completeness. The statements in this research refer to our best understanding of the product description on the website http://safeme.hamburg/index.php/vision/, retrieved 11 February 2016

Particularly in telematics, insurers and Insurtechs alike have not found self-sustaining business models for the German market so far. Several incumbents have had to withdraw their respective telematics solutions already, due to a lack of cost effectiveness and a lack of customers. One recent example is Sparkassen Direktversicherung, which withdrew its telematics offering end of 2015 to further strengthen the value proposition. Another example is the US telematics start-up Amodo with its European headquarters in Croatia, which has pitched at various events but is restricted by the slow adoption of the concept in the German market. Despite this, telematics remains a very important field for incumbents.[11] In fact, the market is waiting to observe the reception of the new Generali Vitality products, which will be entirely telematics-based. Germany has been chosen as the test country and the launch of the Vitality products is scheduled for July 2016.

Further opportunities for data-driven insurance products are associated with the Internet of Things (IoT). In these areas, Insurtechs can benefit from strong digital and mobile capabilities which come from outside of the insurance industry and are paired with a strong understanding of insurance use cases and needs. Such combinations will open extensive new business opportunities in smart home, self-driving cars or sensor-connected health insurance product lines.

Focus on back-office improvements

Apart from Big Data applications, high potential lies in business models supporting back-office operations in core insurance functionalities, such as underwriting, claims management, and policy administration. Compared to the majority of the distribution solutions existing today, the revenue potential in these areas is significant. Administrative tasks in these areas bear major efficiency potential which can largely be realized through the implementation of new technology and software.

Insurtechs have already started to disrupt these back-office operations by improving the interfaces to customer triggers, such as the FNOL processes. However, this only captures parts of the complexity of these processes. Here, technology and knowledge from outside insurance will come into play and find new uses in insurance-related areas, such as artificial intelligence models from banking, drones, or distributed ledgers.

11 For a more holistic view on telematics, please see our paper "The quest for Telematics 4.0" under http://www.ey.com/Publication/vwLUAssets/The_quest_for_Telematics_4.0/$File/The_quest_for_Telematics_4_0.pdf, retrieved 11 February 2016

Agenda for action

Without question, disruption has finally arrived in the insurance industry, and, more importantly, it is here to stay. At this point, the maturity of the new entrants may still be comparably low. However, the assumption that Insurtech is therefore not relevant to incumbents misses a crucial point. Concrete challenges for incumbents are already materializing, and these will certainly grow much bigger in the near and distant future alike.

As a response to this, insurers need to intensify their efforts to learn about digital opportunities and build associated capabilities in-house. More and stronger-backed accelerators, incubators and innovation labs might help overcome the lack of digital capabilities. This will help anticipate waves of change from outside insurance which otherwise are not and will not be on the radar of insurance companies.

Most urgently, insurers need to pay attention not to lose hold of their customer relationships. Although the "monopoly" of underwriting and risk ownership will stay with insurers for the time being, an ongoing inability to develop customer-centric products and services will sooner or later deprive insurers of their most value-adding services. Therefore, insurers need to improve in managing numerous interfaces and add-on services, without losing sight of their standing and role in the market.

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