Digital Transformation in Insurance Sector

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Abstract— New technologies allow for a significant increase in efficiency, effectiveness and a reduction of costs. The life insurance industry in India has undergone massive changes since 2000 when the industry was liberalized. The future looks interesting for the industry with changes in the way business is conducted and the customer-friendly measures that have been put in place. Due to new entrants, changing consumer behaviors, and technological innovations need to innovate new business model in insurance. These papers discuss how insurers can use the digitization opportunity to deliver greater value to their customers and gain a competitive advantage. Insurers can engage more intensely with existing customers and attract newer customers with innovative products, improve both profitability and growth.

Keywords- *Digitization , Digital insurance, Innovation, Business model , Technology*

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I. Introduction

Digitization is the process of converting information into a digital format . In this format, information is organized into discrete units of data. Digitizing information makes it easier to preserve, access, and share. For example, an original historical document may only be accessible to people who visit its physical location, but if the document content is digitized, it can be made available to people worldwide. There is a growing trend towards digitization of historically and culturally significant data.

Use of digital technology is gradually picking up in the insurance industry as sales agents are helping customers to figure out which product to buy and consumers are increasingly buying policies online. A majority of people do the bulk of their initial research online, using tools such as search engines and comparison websites.

Disruptive changes in the economic, political and, most importantly, the technology environment are collectively impelling the insurance industry to innovate. Digitization, as an avenue, enables insurers to equip themselves to face the future — transforming into a digital insurer calls for an innovative approach.

- Unify: Ability to provide a consistent customer experience across brands, products and channels
- Simplify: Ability to achieve operational excellence in both business and IT
- Engage: Ability to create and sustain customer engagement
- Respond: Ability to sense and react to customers timely

Though the traditional insurance business model has proved remarkably resilient, digital has the power to reshape this industry as it has many others. Innovations from mobile banking to video and audio streaming to e-books have upended value chains and redistributed value pools in industries as diverse as financial services, travel, film, music, and publishing. As new opportunities emerge, those insurers that evolve fast enough to keep up with them will gain enormous value; the laggards will fall further behind. To succeed in this new landscape, insurers need to take a structured approach to digital strategy, capabilities, culture, talent, organization, and their transformation road map.

Sources of disruption are emerging across the value chain to reshape:

- Products. Semiautonomous and autonomous vehicles from Google, Tesla, Volvo, and other companies are altering the nature of auto insurance; connected homes could transform home insurance; new risks such as cyber security and drones will create demand for new forms of coverage; and Uber, Airbnb, and other leaders in the sharing economy are changing the underlying need for insurance.
- Marketing. Evolving consumer behavior is threatening traditional growth levers such as TV advertising and necessitating a shift to personalized mobile and online channels.
- Pricing. The combination of rich customer data, telematics, and enhanced computing power is opening the door to usage- and behavior-based pricing that could reduce barriers to entry for attackers that lack the loss experience formerly needed for accurate pricing.
- Distribution. New consumer behaviors and entrants are threatening traditional distribution channels.

Policyholders increasingly demand digital-first distribution models in personal and small commercial lines, while aggregators continue to pilot direct-to-consumer insurance sales. Armed with venture capital, start-ups like Lemonade—which raised $13 million in seed funding from well-known investors including Sequoia Capital—are exploring peer-to-peer insurance models.

- Service. Consumers expect personalized, self-directed interactions with companies via any device at any hour, much as they do with online retail leaders like Amazon.

- Claims. Automation, analytics, and consumer preferences are transforming claims processes, enabling insurers to improve fraud detection, cut loss-adjustment costs, and eliminate many human interactions. Connected technologies could allow policyholders and even smart cars and networked homes to diagnose their own problems and report incidents. Self-service claims reporting such as “estimate by photo” can create fast, seamless customer experiences. Drones can be used to assess damage quickly, safely, and cheaply after catastrophes.[4]

The insurance industry of India consists of 53 insurance companies of which 24 are in life insurance business and 29 are non-life insurers. Among the life insurers, Life Insurance Corporation (LIC) is the sole public sector company. Apart from that, among the non-life insurers there are six public sector insurers. In addition to these, there is sole national re-insurer, namely, General Insurance Corporation of India (GIC Re). Other stakeholders in Indian Insurance market include agents (individual and corporate), brokers, surveyors and third party administrators servicing health insurance claims.

Out of 29 non-life insurance companies, five private sector insurers are registered to underwrite policies exclusively in health, personal accident and travel insurance segments. They are Star Health and Allied Insurance Company Ltd, Apollo Munich Health Insurance Company Ltd, Max Bupa Health Insurance Company Ltd, Religare Health Insurance Company Ltd and Cigna TTK Health Insurance Company Ltd. There are two more specialised insurers belonging to public sector, namely, Export Credit Guarantee Corporation of India for Credit Insurance and Agriculture Insurance Company Ltd for crop insurance.

Market Size

During April 2015 to March 2016 period, the life insurance industry recorded a new premium income of Rs 1.38 trillion (US$ 20.54 billion), indicating a growth rate of 22.5 per cent. The general insurance industry recorded a 12 per cent growth in Gross Direct Premium underwritten in April 2016 at Rs 105.25 billion (US$ 1.55 billion).

India’s life insurance sector is the biggest in the world with about 360 million policies which are expected to increase at a Compound Annual Growth Rate (CAGR) of 12-15 per cent over the next five years. The insurance industry plans to hike penetration levels to five per cent by 2020.

The country’s insurance market is expected to quadruple in size over the next 10 years from its current size of US$ 60 billion. During this period, the life insurance market is slated to cross US$ 160 billion.

The total market size of the insurance sector in India is projected to touch US$ 350-400 billion by 2020.E-businesses

The Indian insurance market is a huge business opportunity waiting to be harnessed. India currently accounts for less than 1.5 per cent of the world’s total insurance premiums and about 2 per cent of the world’s life insurance premiums despite being the second most populous nation. The country is the fifteenth largest insurance market in the world in terms of premium volume, and has the potential to grow exponentially in the coming years.

a) Road Ahead

India’s insurable population is anticipated to touch 750 million in 2020, with life expectancy reaching 74 years. Furthermore, life insurance is projected to comprise 35 per cent of total savings by the end of this decade, as against 26 per cent in 2009-10.

The future looks promising for the life insurance industry with several changes in regulatory framework which will lead to further change in the way the industry conducts its business and engages with its customers.

Demographic factors such as growing middle class, young insurable population and growing awareness of the need for protection and retirement planning will support the growth of Indian life insurance.

Exchange Rate Used: INR 1 = US$ 0.0149 as on September 30, 2016 **[1]**

II. DIGITAL TRANSFORMATION

- A digital transformation in the insurance industry refers to an outside-in approach in line with a customer-centric view of the business. Development with new technology helps in bringing innovation and therefore creating new revenue streams.

- A comprehensive digital transformation in the insurance industry includes a transformation of core insurance applications, customer service as well as claim operations. Insurance companies hold vast data pertaining to business process management, analytics, mobile technologies, and business applications.

- Insurance companies need to focus on digital methods of garnering, processing and delivering information. This requires a comprehensive evaluation of existing tools used, process of managing documents and channels of communication. In totality, the key element is in transforming analyzed behavioral pattern of insurance customers and strategies of business models to digital readiness.

- If we transfer these experiences of other industries to the insurance industry, we can identify concrete application areas which should be investigated more thoroughly in terms of digitization:
- Sales and product performance management
- Operations and claims management
- Planning/ forecasting and reporting

Need of digital capacity:

- Levels of digital maturity in the Insurance industry however, needs analysis on customer engagement, utilization of mobile and the social media spectrum. EY Global Insurance Digital Survey 2013 states that majority of insurance companies, about 80%, do not have a structured digital operating model.
- Digital technology evolves, smart cloud-based software and applications are making paperless transaction a reality. Paperless transactions are growing in popularity among carriers and brokers, allowing sales and other transactions to close faster when the entire process is handled electronically.
- Digital innovation has been the catalyst for customer revolution, but also offers opportunities to develop greater customer engagement, insight and experience to meet customer needs more effectively. Most insurers are still focused on e-commerce but, the leaders are developing longer lasting relationships by using their digital capabilities to gain enhanced customer knowledge and harnessing that information to profile customers more effectively, fine-tune underwriting and deliver customized solutions.
- Far from just being another channel, the impact of digital is transforming what customers expect, creating fresh opportunities to get closer to the customer and moving life insurance from a price to a value consideration. Indeed, rather than a digital strategy, the key objective for insurers should be developing a business strategy for the digital age.
- All insurance carriers started already action to digitalize their workflows and environments. The ambition is always to
- improve workflows via consequent straight through processing
- reduce costs in the back office as well as in sales
- generate a greater customer experience to attract clients
- Improvements through a shift to digital would come in three areas:
- The ability to mine the digital data consumers leave behind on the internet, social media, driving apps and even health-monitoring wearable's could help carriers to better target customers, price and underwrite policies more accurately, and manage claims more effectively.
- The simple digitization of existing insurance processes (allowing quotes to go straight through processing, for example, and rapid product configuration) can yield strong improvement to operating profit margins, based on our experience with carriers that have successfully digitized.
- The opportunity to connect with existing customers to better up sell, cross sell and retain valuable customers.[5]

III. FUTURE PROSPECTS

The hope for the future is that the life insurance sector should increase by a growth rate of about 12-15% in the coming half-decade, by 2020. As per the Sectoral Report by the India Brand Equity Foundation on July 2015, the market size of the country's insurance sector should hopefully jump from the current US$67 billion (approx.) to about US$ 350-400 billion in the next five years with the investment in the pension sector of the country crossing US$ 1 trillion in the coming decade.

One of the major problems of the Insurance industry is that while the population is increasing at an unimaginable rate, the insurable population of the country remains at an all-time low – a fact that should hopefully change soon with the population insured reaching a high of about 75 crore in the next five years. Also, the changing political scenario will make things more interesting and shall definitely bring about a positive change for the sector, as will the improving demographic factors, economic conditions of the Indian population and the growing realisation and admittance of the fact that one doesn't have any control over the future.

Since 2000, India's life insurance industry has gone through a significant change with the entry of a large number of private life insurers with some of the biggest international names as partners.

India may not have fully exploited its economic potential but the country is sitting at a sweet spot from where the future looks bright – the demographic dividend, democracy, information technology and service skills, and the legal and financial framework will propel the country on its growth path. And now is the time for India's life insurance industry to envision its future a decade from now i.e. the year 2025.

Since 2000, India's life insurance industry has gone through a significant change with the entry of a large number of private life insurers with some of the biggest international names as partners. The new players have promoted product innovation, distribution diversity, greater maturity in underwriting and actuarial practices and increased customer centricity leading to rapid growth with life insurance penetration touching 4.6% of GDP in 2010-11

However, this tremendous growth was marked by some laxity in processes in market conduct leading to a decline in consumer trust in life insurance as a safe financial instrument. The regulator and industry have taken several initiatives to overcome these challenges but the industry has still a long way to go in winning back the trust of consumers, distributors and influencers. That is the journey all key stakeholders have to traverse together to build a shining life insurance industry by 2025.

With only 20% of the total insurable population of India covered under various life insurance schemes, to evolve to the next level all the stakeholders – regulator, life insurers, distributors and consumer groups – need to come together and shape a progressive agenda for the sector.

The life insurance industry will be shaped by trends and discontinuities across the following themes:

Consumer behavior and expectations – The Indian consumer of 2025 will be more aware and better connected with the globe. It would not be possible to serve this new society with standard product offerings. The industry will need to identify niches and create unique products for those segments. This will also mean a greater need for well-trained advisors to engage with these customer segments and offer them customized solutions.

Life Insurance conversations – Life insurers will have to be conscious of the fact that new needs will emerge. The consumers of tomorrow will not like life insurance to be sold to them; they would want life insurers and distributors to empower them to buy it. This attitudinal difference will have to be acknowledged and conversation will have to be tuned to this new need. Life insurers will have to work smarter which means using sales strategies and products tailored to this new consumer segment.

Distribution diversity – As conversations move towards greater customization, protection and disciplined savings, agency distribution is expected to emerge stronger. Agent advisors will have to find the ways to overcome the challenges they are facing in the life insurance market. Agent advisors ready to reach out to its clients during this difficult phase will be able to overcome these challenges.

Technology-led customer service – Life insurers and distributors must create systems that integrate the best practices of current processes with technology as the pace of technology adoption, especially mobile technology, will only increase over the next decade. Social media will also play a critical role in reaching out to these 'empowered buyers' who would want to be facilitated in their buying decision. Indeed, social media will provide the means to make initial contact with prospects followed by face-to-face conversations.

Impacts of global forces – Most of the large global life insurers already have a presence in the Indian market. This will further increase with changes in permissible FDI / FII share in equity, which is expected to go up to 49% with the passage of Insurance Bill. This will bring in product, process and technological innovation. New business models will evolve over the next few years and a new landscape will emerge by 2025.

Macroeconomic factors – Though macroeconomic factors may look bleak at the moment, India's economy is expected to record an average GDP growth of 5.6% per annum, second only to China. This will increase prosperity and job opportunities in the country which will in turn help the Indian life insurance industry.

Regulatory factors – In life insurance industry regulations play a critical role in its development. A clear regulatory road map needs to be created that will help life insurance emerge stronger by 2025. The life insurance industry will play an important role in bridging the Rs. 300 billion gap expected in the infrastructure funds of the 12th five-year plan. This role will continue in future also.As the country gets into a new phase of planning and execution for superior socio-economic growth of the country, life insurance industry needs to identify its long-term role and move to a new phase of growth, responsibility and creativity.[2]

IV. *A PERSON'S DIGITAL IDENTITY WILL BECOME A NEW SORT OF CURRENCY.*

- Traditional Insurers will be slow to recognize the threat at first and will largely rely on their ageing adviser force to distribute their products. Their pool of premium will remain static as they fight for the same clients over & over again. Eventually they will respond with their own on-line offerings competing against their adviser force. Some companies will bet large by purchasing start-ups for huge sums of money. Some will even try to build their own online distribution channel but most of them eventually concede defeat and concentrate on the higher end clients which value an advice driven model. The old traditional life insurers will no-longer be the dominant players they once were. Some of the smaller life companies will thrive by offering niche product offerings that are highly targeted to specific consumer groups. It will be the non-relationship commoditised end of the market that will dump their bank or direct insurer in favour of newer funkier start-up companies.

There will be 2 main ways the insurance industry will change:

- Technology Driven Change
- Distribution of Products – disruptive Change
- Technological Driven Change
- Risk Profiling and Big Data
- Medical Advancements in Treatments
- Internet of Things
- Data Collection and Mapping
- Genome Sequencing
- Applications on any device (smart phones, tablets, computers and basically any device with an inbuilt scanner and connected to the internet)
- Distribution of Products – disruptive change
- New entrants to the market like Google who own huge amounts of data collection and will sell insurance on a worldwide scale
- Disruptive Start Ups - With a determination to challenge traditional insurance products, suppliers and intermediaries.
- Manufacturer of Products also wholesaling direct to consumers
- Internet sales - websites
- Risk pooling i.e. peer to peer insurance of like-minded individuals
- The future is bright for Advisers However
- You could be forgiven for thinking advisers will become redundant with the advent of new insurance models and distributive technologies.
- I would in fact argue the opposite. The need for Professional Advice will never go away. The adviser will only become more valuable – not less valuable.
- It is true the lower end of the market will purchase their insurance differently and it will quickly be commoditised but the higher end of the market will still demand Professional Advice.
- Something's will never change. It will still be over to the adviser to find those clients, highlight the need, advise on the best application of the product and the amount of cover required.

It reminds a saying that insurance is sold and not bought.

The opportunity is huge for the professional insurance adviser. There is no doubt the industry will change and if we as an industry can reach more people and educate them as to the importance of protecting their livelihoods then this is a good thing.

V. MOBILE TECHNOLOGY FOR THE LIFE INSURANCE

Those who ignore the mobile technology revolution may place their businesses at a disadvantage. Consumer behavior and expectations, along with pressures to conduct business more efficiently, are making the shift toward mobile platforms more than just a fad. The challenge is how to use mobile technology tools and solutions not only to enhance productivity but also to nurture personal customer interactions and promote customer service.

With the advent of mobile digital technology, the question is whether life insurance companies can benefit from this new high-tech, high-touch approach to sales. The further challenge for insurers is how to choose from among the bevy of technologies, and which approach will be most secure and effective for their business, agents, and brokers.

Over the years, the industry has relied on a fairly low-tech, high-touch process of selling insurance products. Laptop PCs and the Internet initially met with slow acceptance due to a combination of internal resistance and a lack of external pressure. Today the Web has changed from frightening challenge to a necessity, and it has changed the relationship between agents and clients. A recent insurance study found that eight out of every 10 new life insurance clients obtained insurance quotes or information from a company's website, and then contacted an agent to purchase a policy.

Even though today's consumer relies on PCs and the Internet, the same is not true for the agents. Many agents still predominantly rely on paper for presentations, illustrations and completing applications. Mobile technology has the potential for increasing the use of technology by agents and making a lasting impression on the consumer as well. In contrast to the years it took for the Web to catch on in insurance, mobile is relatively quickly becoming an expected platform in distribution.

Today's diversity among mobile platforms and hardware devices brings about challenges in deciding which platform or device to offer to agents. In general, each operating system offers a variety of smartphones and at least one corresponding tablet from which to choose. As the variety and number of mobile platforms proliferate, insurers must decide on the capabilities they want to deliver and then figure out the best way to utilize a platform's unique features and functionality to achieve those goals.

Insurers say that their largest concern is security. For many insurers, the BlackBerry is the only choice because of its security features, but other mobile platforms are stepping up to meet enterprise security concerns. As insurers explore each platform, they must consider the effectiveness of a device in preserving or expanding the personal, intimate connection between agent and customer while mitigating the security implications of their choice. Insurers should develop a list of capabilities they want and then figure out which devices deliver those capabilities as they investigate app development. The tablet provides an agent the ability to have an interactive selling experience, but mobile phones can be successful as well, depending on what functionality is desired.

Even after choosing a platform or device, insurers might decide that cross-platform portability is the better approach to mobile app development. Although native apps are built for one mobile platform and take advantage of the specific features and functions on a specific device, mobile apps that use Mobile Web technologies are often more cost effective and can be reused across mobile platforms and websites. Depending on what kind of app is desired, there are challenges and benefits to both approaches. The cross-platform approach, however, may be very important if an insurer chooses to adopt a "bring your own technology" approach to asset management.

Although there are risks, agents can benefit from having certain functions on their mobile tools. Additionally, mobile apps offer tremendous opportunity to increase market share and customer value. Some benefits include recruiting and retaining younger salespeople, enhanced customer service, error reduction due to electronic data submission, direct access to marketing materials and more interactive comfortable selling.

All insurance companies must address is finding better and faster ways to meet the ever-increasing demands of the regulatory environment. The impact of digital innovation will drive new regulation, thus additional pressures on insurance organizations to efficiently and effectively meet these regulatory requirements.

As a result of these drivers, here are the business and technology trends for the next wave of digital insurance we see in 2016 and beyond

1: Digital channels will replace and augment physical channels. A 2015 Bain survey of insurance companies projected that digital channels will continue to significantly replace physical channels in the next 3 to 5 years. The survey found that 20-40% of physical activities in insurance will be transitioned to digital. Specifically, pre-purchase, purchase, servicing, renewals, claims handling and management, payments, and customer feedback and resolution will become digital first, followed by other functions later. This transition will require incremental IT and integration transformation, which is the topic of 4 of our 8 trends below.

2: The millennial effect on the modern application design. If the success of insurance companies depends on millennials, and millennials only want to interface with the firm digitally, what does that mean for IT systems? Insurance companies must turn the IT in their user experience departments upside down. Legacy systems were designed for human worker workflow, assumed the use of phones and postal mail, and assumed customers were willing to wait for a response. These assumptions are no longer true, and the new insurance customer *demands* information and service on mobile devices and the web, which are completely different design philosophies for application user experience experts

3: Embrace and extend legacy insurance IT infrastructure. With this brave, new, looming technology world, can insurance companies afford to simply dump their systems from the past? Of course not! The techniques to embrace and extend the decades of technology debt require innovation in and of itself. Technologies now exist to extend the life of legacy IT assets and increase the return on investments. There is no longer a need to pursue very high risk, costly, resource distracting, and multi-year journeys to replace these systems in order to benefit from digital transformation. For example, one hot technology trend is the use of in-memory data grid to move and cache back office data for new, innovative, digital applications. Data grids reduce load on existing systems and can save tens of millions of dollars in some cases, at the same time reducing the need to buy additional storage.

4: The rise of digital customer relationship management and digital integration. Customer relationship used to be a purely human practice, but moving forward, relationship management must be digital. For example, modern insurance call centers must have a seamless, real-time, 360-degree view of social media engagement, mobile application interaction, and geo-awareness from IoT sensors. This relationship management scenario is hard to accomplish with legacy systems. Modernized integration infrastructure with up-to-date web API, cloud-based services, IoT aware connectivity, as well as traditional integration infrastructure and data integration is required.

5: IoT increases the need for streaming analytics to innovate. Insurance companies are now capturing new data from the "Internet of Everything." For example, wearable device data allow insurers to offer discounts for healthy behavior, based on activity. But activity-based products require activity-based data and systems, and require the ability to process massive amounts of streaming information from devices. New technical challenges arise. How can streaming data be efficiently analyzed? Which streams must be archived? How will privacy be maintained? How will insurance companies deal with the volume of data streaming from these devices? These technology challenges didn't exist in the last era of insurance, and pose formidable challenges on how to apply streaming analytics technology, historical analytics, security, and big data fabrics.

6: Increased focus on algorithmic risk assessment. Digital insurance data is fast moving—like streaming market data in the capital markets. In 2016, insurance companies will increasingly apply real-time algorithmic computing technologies born on Wall Street to the onslaught of streaming data from GPS, mobile, and wearable devices in order to make algorithmic decisions about subscriber conditions. But unlike Wall Street, insurance companies are *not* building low-latency automation. Instead, they're using continuous algorithmic analysis to continuously monitor streaming data to manage risk, continuously manage subscriber loyalty, and continuously search for sales opportunities.

7: Driverless cars pose new forms of risk. As Elon Musk and Google continue to lead driverless car innovation, the insurance industry must respond. Risk management will not be the same in the digital era—not only in terms of forecasting risk, but also in managing and mitigating risk in real-time. That is, if an automated driver feature in your car causes an accident, who is at fault? The Tesla software engineer who wrote the bug in the software? The "driver" who didn't touch the wheel? The driver of the vehicle that may be have been hit by the autonomic car, but was also partially at fault? And, relatedly, what is the obligation of all insurance companies to gather and analyze massive amounts of streaming forensic data from insured, automated assets in order to decide? How can risk be mitigated in real-time by monitoring streaming data? The digital insurance company must invest in capturing these new forms of data, and in data science to analyze it for forensics, patterns, and predictive actions to decide how to respond to these regulatory pressures.

8: The new digital Data Scientist steps to the forefront. Data Scientist used to be synonymous with actuary in the insurance industry. But in the new digital insurance era, data science is being applied to IoT data for forensics, history for predictive analytics, and location awareness for risk mitigation. These are new forms of data science that will rise to the forefront of the modern insurance firm.

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VI. INTERNAL FACTORS AFFECTING THE INSURANCE INDUSTRY IN GOING DIGITAL:

In the insurance industry, progress on the digital front can be challenged by internal factors. This includes legacy technology, speed of delivery viz. turn-around time and digital fitness. An emphasis towards a synergy in digital innovation can grab opportunities as they come.

Enhancing customer experience:

Main components of a successful digital strategy include enhancing customer experience and focused management of customer relationship. Owing to increasing market competitiveness in the insurance industry, costs involved in acquiring customer share is rising. Therefore, it becomes imperative for companies to retain customers. This can happen with continuous improvement in delivering a better customer experience that is digitally inclined.

Analytics for Digital Soundness:

Providing a seamless digital customer experience is possible primarily with the help of unambiguous analytics. Market share analytics with strategic segmentation is an essential element for digital soundness followed by technical know-how and marketing competency. Analytics lead optimum utilization of costs involved in a digital transformation.

Grasp the Social media wave:

With the growing usage of mobile and tablet devices, insurance industry too needs to benefit from the social media and mobile wave. Insurance enterprises today need to increasingly listen to the chatter on social media to gauge customer feedback and also measure brand sentiment. Social Media will play a huge role in shaping consumer perceptions in the years to come.

In recent years we have seen significant investment in digital insurance, both on the part of start-ups and by incumbent players. Digital technology has been implemented across the value chain, from distribution through underwriting to claims.

Where does it leave the insurance industry?

- How to turn technology into business transformation?
- How is digitalization changing market dynamics and who are the new digital players?
- How is digitalization changing customer engagement and how are insurers adapting?
- How will insurers cope with the flood of data that will come with the Internet of Things?
- How will artificial intelligence and predictive applications shape the insurance industry?

VII. IMPACTS OF DIGITIZATION ON THE PERFORMANCE MANAGEMENT OF INSURANCE COMPANIES

The insurance business is one of the most competitive industries and faces multiple challenges. These challenges are not just caused by changing customer expectations and behavior or by the advent of 'disruptive' organizations from outside the industry, although that is a growing concern for quite some time now as well.

While we see that the landscape is changing due to, among others, these forces there is more, much more. An overview of the digital transformation challenges and overall evolutions in the insurance landscape.

Increasing digitization creates more and more data while, on the other hand, the more and more data there is more data can be evaluated – both existing and newly created data. However, the vital question we have to ask here is which data is relevant and actually should be used? This brings us to a major insight in the context of digitization and Big Data: The rising data variety caused by digitization alone creates no benefit; it is the ability to use that data – and its subsequent actual use – which decides whether it creates added value. To this end, concrete performance management requirements must be derived from the corporate strategy which, in turn, defines what specific information is needed and how the information should be used for performance management.

As digitization becomes more prevalent, customers are changing their behavior. They use multiple channels to gain access to products, have increased affinity for self-service, and expect – or in isolated cases already receive – individually customizable products. These forms of custom-fit interaction and offers push the customer increasingly into the focus of insurance companies' activities. These, in turn, must now create a better basis for rigorously and fully implementing a customer-centric focus. Technological barriers are disappearing at a fast rate and the management approach must be adjusted to suit this changing framework. In the future, customer-centric KPIs must have a higher priority than segment-centric KPIs. The profit and loss statement will develop from a segment-based contribution margin perspective to a customer profit and loss statement.

For Sales, the new possibilities offer a "more" in form of relevant customer information and a "better" in form of more comprehensive and more accurate assessments of customer behavior. Predictive analytics can use the particular situation of customers and an analysis of their peers to create custom-fit products to cover their individual risk situations. Changes in the circumstances surrounding their lives can be integrated into the customer pitch and considered in the performance management of that particular campaign (window of opportunity), as well as used for search engine optimization (SEO)

As digitization continues to spread, the performance management of products can and must be adapted to new product generations. These new product generations enable insurance companies to incorporate significant differentiation according to the individual risk situation and individual behavior of the customer during product design. The basis for this is created by models which use sensor technology to deliver the information required for "pay as you drive" or "pay as you live" products. This allows companies to carry out short-term recalculations and receive early warning indicators in real time. This means the so-called equilibrium in the collective and over time is not leveraged but made manageable. In the future, information on risk assessments and latitudes for pricing will be based purely on facts instead of also being distorted by personal estimations, which are today already incorporated into some sub-models.

With the help of digitization, the performance management of the operations in insurance companies is developing towards the industry standard. Performance management skills are on the rise: In the future, completely integrated work-flow systems combined with operational dashboards will provide absolute transparency concerning current production times, capacity requirements, and processing states in real time. Self-service information portals will enable flexible and mobile access and support the efficient deployment of resources and rapid reaction times if there is a need to (counter) act.

Digitization provides claims management with additional and, in part, completely new information: Simpler claims information available in the short-term via a customer-friendly system for reporting claims using a photo app or products (smart goods) which report the damage themselves via the Internet of Things (IoT). Additionally, there are improvements in fraud detection based on pattern recognitions through self-learning neuronal networks. Information about major events can also be transported using M2M communication faster, more precisely and without "distortions brought on by shock". The effects resulting from digitization in operative claims processing increase the efficiency of claims management and reduce cost of claims to the benefit of all involved.

On the one hand, digitization brings about a far more wide-reaching integration of performance management across all functions. The basis for this is the development of integrated, consistent driver models which enable end-to-end and clearly defined dependencies between KPIs across all performance management areas from sales through operations and claims to risk management, regulations and closing. When integrated cleanly into the systems, the consequences of changes on the markets can be identified considerably faster and more accurately and translated into relevant performance management information. This enables much faster decision-making.

The volatility of the markets and of customer behavior is rising and the speed of changes is increasing. The ability to take decisions swiftly – and thus also to react swiftly – is becoming a clear competitive advantage. It is increasingly important to be able to identify trends early, recognize one's strengths and weaknesses and allow for them continuously in the business model, adjust the strategy in the short term to changes, or react quickly on an operative level to bottlenecks in the company's processes.

- In order to gather all these impulses, to process them and to use them for decision-making, performance management needs to become considerably more agile.

- Digitization helps companies to identify external market developments and trends in both their own industries and those of others, through the use of algorithm-based analyses and interpretations of the extensive range of information, and to identify and react early to changes in customer behavior.

- Digitization also reduces an important implementation hurdle or "decelerator": Convincing everyone involved of the viability of the 100% solution and getting a large number of people to implement it on an operational level. With digitization it is quicker to implement ideas:

Innovations can, for example, be tested as beta versions of products in clearly delineated customer groups, and the customer feedback can flow back into the improvement process as valuable performance management information. Additionally, success needs to be measured differently: Failures are part and parcel of the development and adaptation process and must be evaluated differently in the future

- Many things will be possible in the digital age. Information is created in many different places – in direct relation to the customer but also through their activities in social networks, their purchasing behavior, or simply how they surf the Internet. This creates many questions: Who does the data belong to? Who is allowed to use it? What legal or ethical limits to its use exist?

- In the final analysis, the decisive factor concerning which information is used is “only” the attitude of people or of the company; it is no longer a question of the availability of information or the technical feasibility of collecting and evaluating it. Accordingly, companies need new rules on how to handle information, on what and how much information they collect and evaluate. These rules must be defined in a “Code of Conduct for Digital Ethics”, and the values of both the company and society as a whole play an important role in defining that code of conduct.

VIII. Factors of Successful Digitization

Performance management: Performance management processes must become more agile in order to be able to keep up with the rapid pace of development and the mobility of markets and customers.

Processes: The decision-making processes must be adapted to take the new possibilities into consideration.

Data: Data quality is a major prerequisite for the intrinsic value of information and is fostered through data harmonization in the (ERP) systems in conjunction with strong governance.

Technology/ Skills: New technologies and new know-how, especially in analytics, must either be built up within the company or purchased externally.

Culture: A further critical success factor is to change the mindset/ attitude in the company/ controlling, among users and within management

IX. Conclusion

Digital transformation is challenging in insurance, where change must happen without interrupting the flow of daily business. The digital transformation of the insurance industry is one of the key challenges ahead – and certainly a big opportunity for the industry to renew. Digitization will fundamentally change the business model and the value chain of insurers. Insurance companies should develop their own individual strategy for digitization. Not every approach is suitable for every company as the technical situation and the challenges to be resolved, as well as the benefits of the individual digitization measures, vary from company to company.

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