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Modernizing IT for a strategic role

IT has long been seen as a cost of doing business by insurance companies. In a digital era, it must be modernized and recast as a strategic one.

Insurers' success has always depended upon their ability to analyze data, and thus to price and underwrite policies accurately. The purpose of IT has been to support these capabilities and as such it has been regarded as a cost of doing business. In a digital environment, this relationship and attitude have to change. While the successful insurers of the future will still excel at the analysis of large data pools, their IT functions will move toward playing a strategic role. In the words of Danny Dagher, group chief information officer of regional universal banking group Bank Audi, "There are many insurance companies that run IT as a support function. [In today's environment,] that will kill them."

With so much real-time data being generated in a connected world, digital technology is pushing insurers toward new types of business that help consumers mitigate risk rather than simply protect against it.

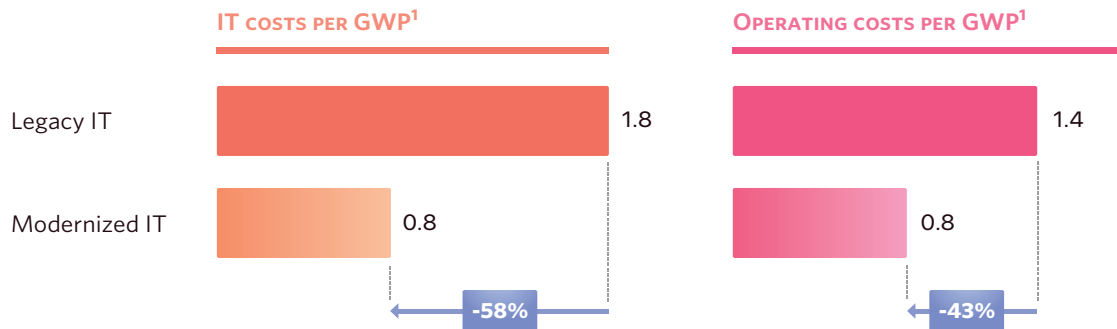
The reason is that technology is defining the winning business model in insurance, as in other industries. It has set a high bar for service—with customers now expecting simplicity, speed, transparency, and customization—while reducing the cost of that service. At the same time, with so much real-time data being generated in a connected world, digital technology is pushing insurers toward new types of business that help consumers mitigate risk rather than simply protect against it.

If IT is to sit at the center of a new business model, insurers will need to make two commitments. First, they will have to invest heavily to build IT capabilities and modernize core platforms. For some incumbents, that might mean as much as 10 percent of a single year's premiums spread over a five-year period, depending on the starting point and the extent of the modernization needed. That level of spending might be hard for some to contemplate, not least because premiums are destined to fall as a result of digital technology (see "Facing digital reality"). But they should bear in mind that wise investments to upgrade IT can ultimately lower their IT and operating costs relative to those of their peers and bring efficiency in IT to the level required in today's market (Exhibit 1).

Second, insurers will need to commit to new ways of working. That means a differentiated approach to IT development, and a more collaborative IT operating model that changes not only the way business leaders work with IT, but

Comparison of costs incurred by modern and legacy IT systems

Percent (average of Q1 2016 of a sample of life insurance companies)



¹ Gross written premium

Source: McKinsey's insurance cost benchmark Q1 2016 Life insurance sample, expert interviews

also how they think about IT. Without this change, large investments could be wasted.

An understanding of what IT needs to deliver in a digital age reveals why these commitments are so important.

The deliverables

There are four elements of a high-performing digital insurance business (Exhibit 2).

A digital portfolio of products and services within an ecosystem of partners

The products and services that digital technology enables constantly evolve. A leading-edge portfolio already includes features such as dynamic pricing, whereby prices are instantly adjusted based on predictions relating to claims or client churn, for example, and real-time customization of products from a set of both mandatory and optional product modules, again allowing for dynamic pricing.

New types of product will emerge as digital technology alters the nature of the industry. Access to ever more real-time data, particularly via the Internet of Things,

A large European insurer has modularized its auto insurance to enable customers to tailor policies to their needs—either by choosing one of three predefined packages or by assembling a policy from a range of modules including roadside assistance, rental car guarantee, and compensation for loss in value. Because the dozen or so modules are standardized and individually priced, the straight-through processing (STP) rate for the issuance of policies is close to 100 percent, delivering considerable cost savings, while the average new-business premium per contract has risen by 6 percent.

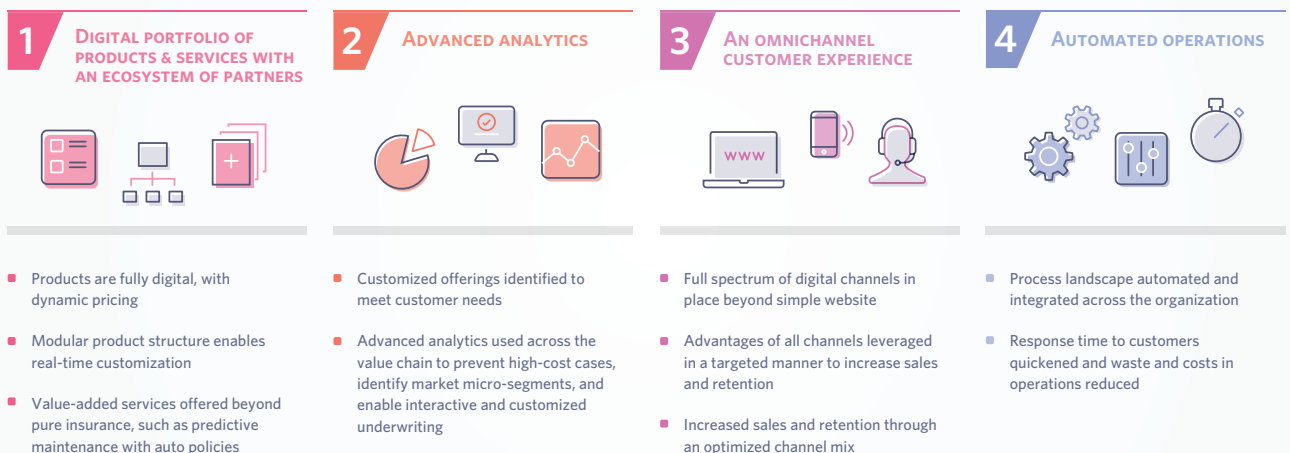
means more accurate assessment of risk, but also less risk. Sensors in the home can warn of the danger of fire, sensors in the car can help prevent accidents, and sensors worn on the body can alert physicians to health problems. In addition, the data gives rise to new services that can be combined with insurance products—a medical

checkup, or an automatically triggered appointment for repairs when a fault is detected on a car.

Importantly, in a connected world, insurers will need to complement their proprietary data with data from other industries and external sources. For example, car manufacturers will arguably have more

Exhibit 2

Four elements of a high-performing digital insurance business



insight into a driver's risk than insurers do once sensors become fitted to vehicles as standard. Insurers will therefore no longer be able to rely solely on their underwriting skills, but will need to partner with companies from other industries, such as auto manufacturers and telecoms operators, to become part of the ecosystem forming around the data stream, offering products and services of which insurance is but one component (see "Partnerships, scale, and speed: The hallmarks of a successful IoT strategy").

them either in the product system or other core systems.

IT will also need to manage quite different relationships. Under the traditional insurance model there was clear differentiation between a carrier's customers and suppliers. But that line is blurring as insurers increasingly offer value-added services that are provided by external partners, in addition to traditional insurance products, and an ecosystem of partners takes shape.

A Dutch insurer has partnered with a leading technology company to develop an internet platform for the remote monitoring of chronically ill patients, aimed at containing costs and increasing customer satisfaction by encouraging healthier lifestyles. In a similar effort, South African insurer Discovery has developed the Vitality platform, now available globally through partnerships—with John Hancock in the United States and AIA in Singapore and Australia, for example. It encourages its more than 5.5 million members to lead healthier lifestyles, and in return offers discounts on a range of products and services.

IT capabilities clearly contribute to the value of such digital portfolios. Technically, product systems need to be flexible in order to map modularized product structures, for example, and must lend themselves to being integrated, alongside other systems in the IT landscape, with those of external partners to enable joint development, testing, and release. Organizationally, IT needs to support the business to bring new products to the market within weeks rather than months, and with little or no additional IT effort required to implement

An omnichannel customer experience

Whatever products and services an insurer offers, customers want to access them across a range of channels where they enjoy the same high-quality experience that they are used to from other industries, such as retail. And they want to be able to switch from one to another without the disruption of having to repeat themselves or reenter data. Companies that fail to provide this omnichannel experience will lose customers to competitors that do.

A US insurer has launched a mobile app that enables customers to get an instant quotation for auto insurance by taking a snapshot of their driver's license, to report vehicle damage by sending photos, and to find a service center for repairs. Claims processing time has fallen by up to 20 percent as a result. A European insurer has launched a similar app for mobile quotations and underwriting; cycle times for policy issuance have fallen from three weeks to three minutes.

The implications for insurers are clear. They need round-the-clock platforms for all channels, with functionalities available to customers, sales partners, and external partners on multiple devices and user front-ends. They need to equip the salaried sales force and tied agents with mobile devices and applications that ease the sales process with existing and potential customers. And they need to provide those customers with self-service tools that enable them to acquire real-time quotations, make administrative alterations to policies (such as changing an address or direct debit information), or notify a claim.

Automated operations

The automation of processes increases customer satisfaction while reducing

operating costs, and touches every step in the value chain regardless of the line of business or channel. The generation of sales leads and the processing of high-frequency, low-cost claims are just two candidates ripe for automation. Increasingly, however, insurers will need not only to automate basic processes further, but also to deploy robotics with artificial intelligence and advanced analytics to make better decisions, faster.

Achieving a high degree of automation requires profound changes to IT architecture because every layer is affected. For example, policy administration and claims systems will need to be overhauled, be it in response to a higher overall level of IT intensity, the introduction of novel robotics and script systems, or upgraded work-flow engines.

A Scandinavian insurer has rigorously automated the claims handling process. For first notice of loss, it deploys “smart” scripts to capture the fields relevant for STP; in claims handling it checks coverages through a rules engine and calculates costs upfront through a data-based inspection system. In these ways, the insurer has been able to achieve STP rates in claims of up to 30 percent in auto insurance and 60 percent in health.

Advanced analytics

Insurers increasingly employ advanced analytics to help them make better decisions. Some auto insurers, for example, use credit scores to assess risk more accurately, as analytics have revealed that people who pay their bills on time tend to be safer drivers. And some life insurers are using social network and geographical data to reduce fraud by up to 25 percent. Ultimately, advanced analytics will become a capability that sits at the core of the way business is conducted across the value chain, further driving the level of automation.

platforms to generate value-creating insights via predictive models or machine learning.

A strategy for building next-generation IT

Delivering on all this is replete with challenges. There is the technical challenge of overcoming the drag of legacy systems and the practical one of hiring new talent—both of which may be familiar to some insurers. Yet if the full strategic value of IT is to be realized, new, often unfamiliar ways of working and thinking will be required too.

A large European insurance group has developed a statistical model to predict and reduce customer churn. By analyzing variables such as the price paid for a policy, the percentage price increase year on year, and how long the policy has been held, it can identify those customers most likely to leave. It then reverse-engineers competitors' prices and optimizes its own prices accordingly. In addition, having identified those clients most at risk of leaving, it is able to concentrate agents' efforts on retaining them. As a result, renewal rates have increased by up to 7 percentage points and bottom-line profits by as much as 5 percent.

Capturing the technology's potential hinges on the ability to administer and analyze data (whether from internal or external sources) in a consistent manner across all channels. Both will require significant changes to existing IT architectures. These include establishing a master data-management system that gives a consolidated view of all data, in particular customer and product data, and the deployment of big data and advanced analytics systems that integrate data sources and provide

We see four key components of a strategy to modernize IT for the digital age.

Systematic building of new capabilities

With most incumbent insurers, there is a gap between the capabilities they have and the capabilities they need. A clear plan is required to bridge the gap, based on a grasp of the present state and the target state over the next three to five years. Areas must be prioritized and initiatives agreed.

Beyond exceptional general capabilities such as fast decision making, the ability to learn and react, and strong central steering, the essential qualities needed to keep pace with digital leaders are rigorous discipline in IT execution, world-class agile IT engineering, a scalable cloud infrastructure, and a single, open, and flexible application architecture.

“Think of all the informational assets you have as an insurer ... if that’s all hard coded, and if it takes massive capital expense and effort in order to make even superficial changes to that environment, then you are, in a sense, suffering from strategic lock-in.”

– Marcus Ryu, CEO of Guidewire

Fresh talent will be required to strengthen existing capabilities and build new ones. Traditional methods of recruiting via agencies, job listings, or internal referrals

might have to be augmented by searches among developer communities, via participation in technology conferences and other events, or by establishing partnerships with software providers. In turn, developers will expect prospective employers to check their contributions to open code communities, not rely on interviews.

A differentiated approach to IT development

Digital attackers can build their IT capabilities from scratch, aiming precisely at specific emerging opportunities. Incumbents have the advantage of large policyholder books of business, but are burdened by system environments which were designed for traditional operating models and are challenging to adapt to contemporary digital preferences. Marcus Ryu, the CEO of Guidewire, a US software provider for P&C insurers, describes the situation as “strategic lock-in.”

That said, these legacy assets still have considerable value, which needs to be maximized. Often, the solution is a bimodal approach comprising “digital IT” and “foundational IT.” In respect of the first, the innovative features and products demanded by customers are released quickly by replacing the waterfall method of software development—whereby software is developed, tested, and deployed in a strict sequence—with agile methods whereby teams work in sprints to meet weekly development targets. Features are tested with customers and refined and refreshed in rapid iterations. Meanwhile, the development and

management of foundational IT—the parts that support business capabilities requiring less agility and speed—can be approached in a traditional, more structured manner to ensure the stability and reliability of systems, and cost efficiency. Our experience is that the division of digital IT and foundational IT should be made according to business capabilities and where speed will differentiate a company. Hence customer portals, social management, and customer relationship management typically belong to digital IT, while risk management, fraud management, and accounting belong to foundational IT with longer release cycles.

Some believe the bimodal approach has drawbacks, arguing that agile ways of working should be introduced as broadly as possible. Our view is that insurers should indeed switch to an agile development approach wherever they can, but the fact remains that releases in foundational IT domains do not need to be as frequent as those in digital IT domains. A bimodal approach is therefore an effective way to ensure that investments to accelerate IT delivery are directed where they will be most valuable.

That said, establishing a bimodal approach requires time, careful consideration, and commitment because it involves radically evolving IT, an agile collaboration culture (see below), modern engineering methods such as DevOps, increased use of services and microservices, improvements to the organizational setup, and the honing of talent.

“Moving toward an agile methodology ... means development times are shorter. And it includes—this is the important part—getting the business people involved in the development of any new solution.”

– Tom King, senior director
at US software company
Pegasystems

Modernized core platforms

For many incumbent insurers, there is no getting away from the need to overhaul their core platforms. Written using decades-old, common business-oriented language (COBOL) or PL/I, these monolithic, batch-processing systems usually cannot deliver the speed, agility, and flexibility required by a digital business. They can present difficulties in terms of operations and scalability, and are too costly.

These insurers are left with three choices: build a new core insurance platform themselves, refactor the existing one

(by modernizing code or streamlining the system architecture, for example), or replace it with standard software. The choice will depend on a range of considerations, including the state of the legacy systems, the level of ambition, and the level of resources. Those wanting to lead in processes and product innovation, and able to invest accordingly, might choose a proprietary platform. This was the choice made by a global insurance group seeking a platform with a common core and country- and entity-specific customizations in order to promote common practices globally while maintaining local flexibility. Insurers with relatively stable and modern systems that need to be able to support digital technology might choose to refactor. And those aiming for lean, standardized processes and products might find standard software to be the right solution. A Benelux insurer that found itself with a very expensive legacy system unsuited to digital modification, and wishing to institute lean processes, chose standard software as its best option.

A collaborative IT operating model

The digital operating model is defined by agile ways of working and by collaboration—internally across the business and externally with partners and vendors.

Internally, a digital-ready operating model is one in which IT works closely with all other parts of the business. Yet most insurers still organize themselves around functions such as risk, underwriting, claims, marketing, and sales. While

these functions have deep expertise, they are too rigid to respond to rapid change. Moreover, in a functional setup, no one really understands the entire customer experience.

For many incumbent insurers, there is no getting away from the need to overhaul their core platforms.

Cross-functional teams organized around products solve this problem. Their combined expertise means they are able to deliver the products and services customers want and at the pace required in a digital world, particularly if team members are located in the same place (often digital “garages” or “factories”), they are empowered to make their own decisions, and the entire team (not just the IT people) adopts an agile approach to its work. Flexible funding—replacing the conventional one-off, annual budgeting process—ensures that investment is directed incrementally at projects that show most promise.

Externally, IT must facilitate collaboration with new partners—auto manufacturers, telecom companies, sensor and chip manufacturers, or digital platform giants such as Uber—by enabling the integration of systems and processes. Yet some reevaluation of existing relationships

might be needed too. If agile models are to succeed, vendors might need to work differently, in closer cooperation with insurers. Insurers are therefore likely to have to consolidate the number of vendors with which they work. In addition, contracts that fix prices, scope, and budget might need to be replaced with contracts that reward success.

This type of operating model requires cultural change within IT and the businesses. Leaders in both need to help build an understanding across the organization of how IT can define a product's value to customers, and how agile ways of working can deliver that value. This is particularly true for intangible insurance products.

Working in cross-functional teams will help alter thinking. But for business leaders to contribute to the collaborative environment, and understand the constraints and potential of IT, some formal training is often required. One large European insurance group has set up an IT literacy program to educate and update business line managers, while all newly appointed top business managers must take a three-day training module to help them understand and capture IT's strategic value.



Building next-generation IT capabilities is no small undertaking. The process touches all dimensions of a company's IT—architecture, application landscape, infrastructure, supporting processes, and operating model—as well as skills

and culture. While near-term benefits can be captured within six to 12 months, a wholesale upgrade to the next generation of IT capabilities can take as long as five years and will require a company's full commitment and significant investment. The effort will bring a reward beyond lower overall unit costs: an IT function equipped to play the strategic role crucial to an insurer's success in a digital world. □

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