



# Innovation in insurance

## The path to progress

A special edition of our Forward Focus series  
for insurance executives

# Furthering the conversation on innovation

We are pleased to offer this insight as a part of Deloitte's innovation series—a collection of articles aimed at providing ideas and practical insights specific to innovation.

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# Innovation

**I**NNOVATION may be among the most desired but least understood of corporate goals. As shown in figure 1, interest in innovation, as measured by the relative frequency with which it is mentioned in the millions of books cataloged and digitized by Google, rose steadily from the immediate post-World War II era up until 2008, the last date covered by Google Books.<sup>1</sup>

2008, as we may remember, was the year when a number of exciting innovations in financial services ended in a crisis from which we are only now recovering. In hindsight, it may be hard to remember how innovative ideas like credit default swaps (CDS) and similar derivatives were expected to increase profits and lead to a new world of low-risk investments and continued economic growth.

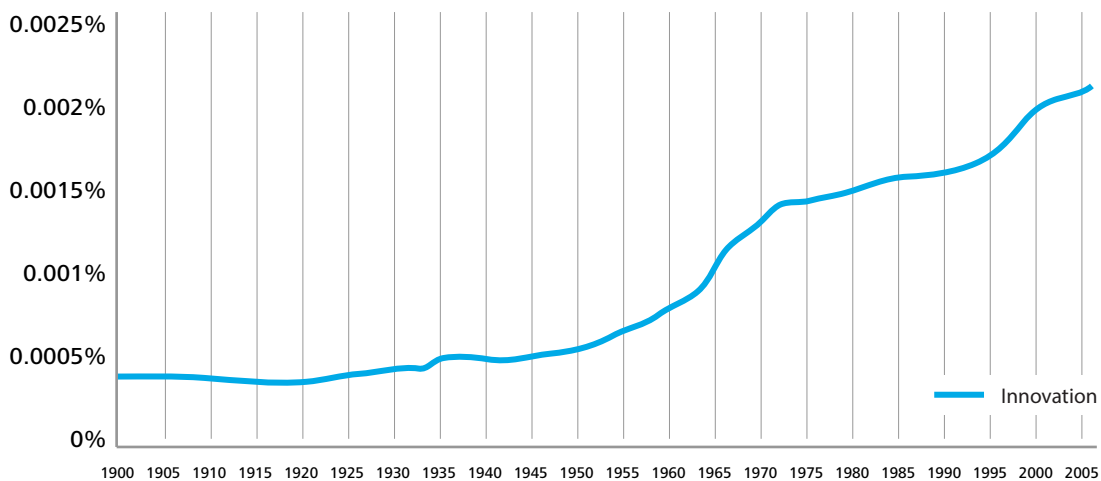
That didn't work out as expected, and innovation sometimes doesn't. The question then becomes whether it is worth the risk.

Most corporate executives recognize the value of innovation, but few would be brave enough to boast of clearly understanding the process of implementing innovation in a business model, and even fewer of successfully integrating continuous cycles of innovation in their own companies.

That is not necessarily a mark of failure, but a recognition of reality. For a successful business, a commitment to innovation represents a gamble as to whether the innovation, if successful, will adversely affect the existing business, or represent a substantial increase or improvement in the business.

And the gamble does not always pay off. But in today's world of big data and rapid economic and technology changes, can companies risk not being innovative?

**Figure 1. Relative frequency of mentions of innovation in books cataloged by Google Books**



# What is innovation?

**I**NNOVATION as we use it here refers to any combination of activities and technologies that breaks existing performance trade-offs in the attainment of an outcome in a manner that expands the realm of the possible.

This definition comes from leading innovation researcher and Deloitte Research Distinguished Fellow Michael Raynor, who said in his book *The Innovator's Manifesto*: "Trade-offs define the limit of what is possible at a point in time, not what is possible for all time ... all innovation is about breaking trade-offs."<sup>2</sup>

It is important as we examine this definition of innovation to realize that innovation doesn't necessarily translate as "new and improved." Madison Avenue notwithstanding, some of the most important innovations of our lifetimes may not represent something objectively better than that which they replaced, but rather something good enough for a desired outcome, something good enough to expand the realm of the possible.

That drives growth. Breaking trade-offs through innovation allows a company to reach a point in "strategic space" that competitors cannot, allowing a company to provide a product at a price or performance level competitors cannot match, Raynor argues.<sup>3</sup> Among the examples he cites is the personal computer (PC) industry.

At the time they entered the marketplace, PCs could not even dream of approaching the performance of the worst minicomputers. But the trade-off they broke involved price, and as the performance of PCs evolved to the point where they were "good enough" for almost all tasks minicomputers previously handled, the market accepted that trade-off.

How many minicomputer manufacturers can the average consumer name now?

Price is not the only trade-off one can break. The iPhone could have been just an expensive way to look really cool, but users quickly discovered it offered non-price value that trumped its higher cost. As with PCs on the low end of the market, the iPhone on the high end did not just disrupt the existing market, but created a new market of its own. They may not have had the greatest screens on which to watch the latest 3D movie, but on the train going home, they were "good enough." They may not have offered the performance of the PC for Internet surfing, but again they were "good enough."

Raynor's mentor, Harvard Business School's Kim B. Clark, professor of Business Administration and fellow innovation guru Clayton M. Christensen argue that there are three types of innovations:<sup>4</sup>

- "Empowering" innovations move products from costly items available to the few to mass-market items available to the many. These innovations expand the market. Consider the move from whole-life to term products as an example of such an empowering innovation.
- "Sustaining" innovations are essentially product replacements, moving from one model to another that may be better, but has a basic similarity. This represents the majority of current innovation, Christensen says, but translates into a zero-sum economic game. Here, replacing one annuity with another slightly better but substantially similar one seems an appropriate example.

- “Efficiency” innovations reduce production or distribution costs. The use of the Internet by many auto insurance writers may be a good example of this type of innovation.

Christensen sees these innovation types as cyclical. Efficiency innovations may cost jobs, but they may lead to more efficient use of capital that could then result, in Christensen’s view, in a commitment to empowering innovations, the results of which are leveraged through sustaining innovations.

One could reasonably derive from Christensen’s argument the view that most industries or companies are always somewhere in the process of innovation, whereas the other option may be a steady or even swift decline into irrelevancy, much like what happened to blacksmiths or daily newspapers.

Yet there are those who would argue that the link between insurance and innovation is so tenuous as to be nearly nonexistent. In the words of the old cliché, innovation and insurance are found together only in the dictionary.

But we would respond that the conservative reputation the industry enjoys has served to camouflage a tremendous track record of innovation, from the first written insurance contract inscribed on Babylonian columns by King Hammurabi’s men<sup>5</sup> to the industry’s current use of big data to lower costs and improve results.

The societal impact of insurance innovation cannot be understated. For example, the Great Fire of London in 1666 led to the formation of the first English insurance company, The Fire Office, located behind the Royal Stock Exchange.

In order to protect its investment, that insurer and the others established soon afterward set up their own fire brigades to fight fires at places covered by their policies. Then, in a triumph of reason and enlightened self-interest, the insurers donated their firefighting equipment to the city in order to form and equip a municipal fire brigade that could fight

fires anywhere in the city, not just in the buildings the companies insured.<sup>6</sup>

While American founding father Ben Franklin had many noted accomplishments, what could have been more important than his founding of the nation’s oldest operating property insurance company,<sup>7</sup> The Philadelphia Contributionship for the Insuring of Houses from Loss by Fire, after the great fire of 1730? But even the lasting importance of the existence of insurance against fire for individual residences may be secondary to the safety innovations the company employed.

## The conservative reputation the industry enjoys has served to camouflage a tremendous track record of innovation.

Surveyors were sent to inspect each building before it was accepted for insurance, and a rate was then set reflecting the risk.<sup>8</sup> The Independence Hall Association noted: “Houses built not conforming to legal specifications were denied insurance. Mrs. Lydia Biddle, for instance, was denied insurance because of an unlawful wooden bakehouse adjoining her home. Early policyholders had to have a trap door to the roof as a way of fighting roof and chimney fires. During the British occupation of Philadelphia in 1777, a chimney sweep hired by the firm was sent around to occupied houses to maintain fireplaces. The lightning rod, invented by Director Ben Franklin, also helped to deter fires. Houses with trees in front of them were not insured because early hoses could not maneuver around them.”<sup>9</sup>

That last policy clause led to the formation of a rival insurance company that would

cover the risk, a reminder that the industry has always been highly competitive.

The history of insurance product innovation is a history of human trade and development. The earliest policies largely covered losses by merchants going through foreign lands, enabling them to share the risk of trade.<sup>10</sup> Maritime insurance dates back to the 13<sup>th</sup> century at least. Its expansion tracked the growth of seafaring trade, with many of those writing insurance in the 1680s gathering at Edward Lloyd's Coffee House.

Life insurance, accident, and health insurance, and now everything from business interruption insurance to cyber insurance, reflect innovations developed by insurers in order to allow merchants to take risks for growth and families to survive in the face of unexpected hardship.

The secondary result of those innovations has been life-improving innovation in other sectors, from the Underwriters Laboratory mark letting consumers know a product has met safety standards to air bags and seat belts whose development and adoption were driven in part by industry-funded sources like the Insurance Institute for Highway Safety.

Underlying much of this were the internal innovations that drove insurance and allowed an industry based on trust to thrive. Few people buying life insurance or annuities today need consider if the insurance company will have the resources to pay when expected. But underlying that basic trust is a system of reserving reliant on mortality tables developed by innovators like Dr. Richard Price, an 18<sup>th</sup>-century British mathematician who authored one of the major milestones in the history of mortality calculations when he prepared the Northampton Mortality Tables.<sup>11</sup> His pioneering work in life insurance science with The Equitable Life Assurance Society in London, at a time when life insurance was just gaining credibility, formed the basis of the vital, sustainable industry we see today.

The few examples of innovation in insurance and by insurers cited here can hardly capture the breadth and depth of such innovation over the years, but that is not to say that there is no room for improvement. Innovation in insurance has long been rightly married to a certain conservatism that ensures that companies do not get carried away by the latest fads, but preserve their capital for its intended purpose. That conservatism served most carriers well during the 2008 crisis, but may also hinder the flexibility needed to survive and thrive in a post-crisis environment, as the rate of change appears to be accelerating.

Empowering innovation, as defined by Christensen, may be by its very nature most disruptive to existing insurer business models. Trained as the industry is to focus on the best products and justifiable investments, it may be well positioned to implement both sustaining and efficiency innovations, but that may not be sufficient. Insurers are great at analyzing data—but, as Christensen's third principle in his seminal work, *The Innovator's Dilemma*, states: "Markets that don't exist can't be analyzed."<sup>12</sup>

Doing everything right for now may not be enough if you miss out on the next wave of innovation. As he studied disruptive innovation, "in industry after industry, Christensen discovered, the new technologies that brought the big established companies to their knees weren't better or more advanced—they were actually worse. The new products were low-end, dumb, shoddy, and in almost every way inferior ... But the new products were usually cheaper and easier to use, and so people or companies who were not rich or sophisticated enough for the old ones started buying the new ones."<sup>13</sup>

Raynor uses a different model from Christensen for describing types of innovation. For Raynor, innovation is split between "disruptive" and "sustaining." Disruptive innovations are those like the iPhone and the PC, mentioned earlier, that push through

the frontiers to create a new business model. Sustaining innovations expand the boundaries of a business model.

Both models, though, seem to agree at least in part on the differences between types of innovations and their effect on the market, and both researchers convey the market-altering power of disruptive innovation.

Insurance is, in many ways, a prisoner of the past. The industry relies on data to assess and manage risks and to create new products. Insurers are very good at expanding the boundaries of the current business model. Like minicomputer makers, the industry is masterful at tweaking and optimizing its product. A quick look at some of the new products made available over the past few decades shows numerous examples of sustaining innovation. The industry does seem to know how to meet the needs of its consumers.

On the other hand, a look at the percentage of the available market buying various insurance policies may lead one to be concerned

about the lack of movement toward expansion of that market penetration.

Insurance may not readily lend itself to as dramatic a disruptive innovation as was term life insurance at a time when whole life was all there was, for example, but the market may demand it. Whether one uses Raynor's terminology and calls it "disruptive innovation"—creating a new market—or uses Christensen's concept of "empowering innovation"—dramatically expanding the market—insurers may do well to work toward innovation that increases the size of the market they serve.

While current customers may seem content with the choices available to them, with a vast underserved population for products like long-term care and life insurance, the industry must be cognizant of the danger of disruptive innovation by an upstart creating a low-end product that, like the first Japanese transistor radio or automobile to hit the US market, is taken less than seriously in the short run, with dire consequences down the road.





# Empowering

The late Harvard marketing professor Theodore Levitt was known for saying, “People don’t want to buy a quarter-inch drill. They want a quarter-inch hole.” One could extend that to say that people don’t actually want a quarter-inch hole; they want a peg on which to hang their coats.

With insurance, people want to buy the peace of mind of knowing their risk is covered. For insurers, the issue is how to do this profitably and efficiently. The difficulties of doing this in the United States are clear enough, but consider the difficulties facing insurance companies in India.

That vast nation, filled with nooks and crannies, with giant cities and remote villages, with great disparities of wealth, is one of the fastest-growing and most-prized markets for most industries. Insurance is no different. The Indian government liberalized the insurance industry in 1999 and detariffed the general insurance industry in 2008, leading to a period of great growth. This growth is expected to continue, with the general insurance market expected to grow by about 20 percent per year from \$8 billion currently to approximately \$28 billion dollars by 2016<sup>14</sup> and \$50 billion by 2020.<sup>15</sup>

The obstacles to companies reaching for that prize are formidable. Even apart from the difficulty of finding the talent needed to staff a growing company, the sheer geography of the country makes it difficult to reach some consumers. This was territory ripe for empowering innovation.

About two years ago, one company decided to try. Part of a \$12 billion business group, L&T General Insurance Company is a full-service, full-scale company offering property and

casualty insurance as well as health insurance to individuals and small and large businesses across many geographic areas in India. The innovative idea at its core, according to CEO Joydeep Roy, was the objective of becoming and remaining a company that depends on mobile solutions right from day one.<sup>16</sup>

The sheer audacity of that idea is daunting, but the economics were compelling. Within the past seven years, India has moved from a nation of approximately 5,000,000 cellular phone users to one where more than 800 million people now carry a cell phone, most of which are Internet capable. Being able to use this mobile platform to reach potential customers as well as to administer claims would enable the new insurance company to quickly and efficiently serve a vast range of consumers, its leaders thought.

“India lives in its town and villages. What is most important is to have an effective, low-cost, reliable, and consistent delivery mechanism,” said Roy.<sup>17</sup>

But before beginning to use that platform to reach new customers, the company sought to reinvent the entire insurance technology foundation. So far, it has built an end-to-end solution that is completely service-oriented architecture-based, ACORD-compliant, and fully Web-based—and therefore normally accessible from the cloud. This enables the company to issue policies virtually anytime, anywhere, from practically any device. The system allows producers to scan image documents anywhere. The company is able to handle claims, automatically handle reinsurance placements, and manage external financial accounting online.

## These disruptive innovations have led to vast new markets at price points the average American executive may have considered noneconomic.

How effective has this been? The company opened 10 branches in its first year. In less than two years, it has been able to issue policies in more than 1,040 different towns and cities. More than 100,000 policies worth \$28 million have been issued and more than 6,000 claims serviced, all without a single piece of paper.

CEO Roy says the company has been able to do this through differentiation based on three principles.<sup>18</sup> First, it moved the ability to fully satisfy the consumer to the point of sale. The agent is able to provide all the relevant information and documentation to the prospective customer when the sale is closed. Second, the company moved to achieve proximity and trust through consistent delivery and by being close to consumers, with the ability to reach them through any medium.

Third, the company moved to retain control of the process, especially the back-office work, through its technology. That enabled the company to provide different types of customers with quick, reliable service. In a country where policies may be denominated in microdollars—small, low-dollar, and possibly expensive-to-service policies—as well as in sizes more familiar to Western eyes, its completely scalable plug-and-play architecture gives L&T a significant advantage in the marketplace, because it can address multiple market segments with a single business model.

The benefits to L&T of this innovative new system have been numerous. Because the entire system is integrated and Web-based, the company can balance the operational load so that a peak in one area can be handled by transferring a portion of the workflow to another. This results in balanced operational efficiencies across the enterprise. The modular

system, which includes risk and rules engines, has also allowed L&T to reduce product launch time by about 18 months.

For the consumer, L&T's mobile system has meant that a scanned printout of every proposal form is included with every policy document a customer receives. "They can see what they signed up for," Roy said. This, he argues, leads to increased trust. That, after all, is all any insurer really has to sell.

Roy sees more advantages in the future. Collection is a constant challenge for Indian insurers, he says, but with mobile transaction platforms now becoming popular, the ability to transfer funds from one phone to another may reduce that burden on insurers. Roy also sees value-added services, whether for health, auto, or homeowners insurance customers, as being among those that his "everywhere" system will be able to offer his Indian customers in years to come.

Some of the innovative practices L&T has introduced have changed the broader Indian insurance market. Auto policies, for example, were normally issued with cover notes, Roy said, but L&T's policy of issuing the full policy immediately with no cover note is an innovation that has been followed by the larger companies in the market. (Cover notes, usually given to consumers, are similar to binders given to agents or brokers, offering evidence of insurance until a policy is delivered.) By immediately issuing a policy instead of a cover note, the company not only manages administrative costs, but also helps provide a sense of certainty and trust to the consumer.

India is not the only place where mobile technology has transformed the insurance industry, and with it, the lives of the people

it serves. In Africa, where there are an estimated 735 million mobile phones, micropayments through cell phones have dramatically increased the availability of insurance. For example, the UK newspaper *The Guardian* reports, “MicroEnsure ... embeds life insurance premiums in pay-as-you-go top-up cards. A \$3 minimum monthly spend gave kettle-maker Rebecca Darko and her family, from Accra, Ghana, a safety net of \$140 in life insurance after a family death threatened to drown them in debt.”<sup>19</sup>

Two South African companies, mobile insurance pioneer Hollard and telecom giant MTN, teamed up “to establish a plan where Ghanaians can pay premiums as low as one cedi (\$0.65) per month on their mobile phones through MTN’s mobile banking system.”<sup>20</sup>

This insurance provides a level of certainty that makes taking risk possible. It adds value to the lives of those who most need it by doing what insurance at its very best can do—allow people to participate in economic activity that may help them up the economic ladder. Researchers who investigated insurance for sows in a large, randomized natural field experiment in southwestern China concluded: “Our results indicate that having access to formal insurance significantly increases farmers’ tendency to raise sows ... Our finding suggests that microinsurance may be as important as microfinance in poverty alleviation, and microinsurance can supplement and strengthen the effects of microfinance by

protect[ing] the farmers from the inherent risk of entrepreneurial activities.”<sup>21</sup>

In both the Indian and African contexts, insurers have managed to break the trade-offs that limited their products’ affordability and distribution. These disruptive innovations have led to vast new markets at price points the average American executive may have considered noneconomic—markets poised to expand and potentially become even more profitable with economic growth.

Contrast this activity to that in the United States, where mobile phones with Internet access are widespread, mobile apps are ubiquitous, yet insurance companies are still trying to figure out how best to use these platforms.

In the United States, the Federal Insurance Office (FIO) has been charged with looking at the effects of auto insurance costs on low-income and underserved communities. Life insurance penetration (total premium \$ as a percentage of GDP) in the United States was 3.5 in 2010<sup>22</sup> (compared to 9.5 in the United Kingdom, 7.4 in France, and 8.0 in Japan). Only between 7 and 9 million Americans have private long-term care insurance.<sup>23</sup> There seems to be plenty of room for growth.

What if some upstart company were to develop a new way to reduce distribution or underwriting costs, and provide a product that is just good enough at a price point consumers find affordable? What would happen to the market then?

# Sustaining

**R**EALITY rarely falls into the discrete modes prescribed for it by academia. So it is with innovation. L&T's innovation may rightly be regarded as empowering, inasmuch as it fulfills the criterion of broadening the market to the previously underserved by lowering cost and other barriers to their participation. Possibly one of the most effective uses of emerging technologies in the property-casualty space—and one of the most striking examples of innovation—has been the use of telematics.

Telematics may largely be considered a sustaining innovation in that, for the most part, it represents a zero-sum economic game. Automobile insurance, after all, is prescribed by law, ensuring that the size of the market is relatively constant. But even here, the sustaining innovation that telematics represents may well be seen in part as an empowering innovation because, with its ability to reduce costs and lower some purchase barriers for potential automobile insurance customers, it may increase the market and reduce the number of those illegally uninsured. This is especially important as both the US federal government and state insurance regulators closely examine the auto insurance market, looking for ways to reduce the impact of the cost of this insurance on those with lower incomes.

Insurance telematics is defined as the integrated use of user-generated source data, telecommunications, and analytics to support insurance-related products and services. This involves the collection, transmission, normalization, and analysis of vehicle and/or driving behavioral data, usually through interactive cellular or satellite service connections and often with dedicated data collection devices, although smartphone and mobile apps are gaining momentum.<sup>24</sup>

That's the technical definition of insurance telematics. Here's a description that may better resonate with the average consumer: "Telematics car insurance—sometimes called black box insurance, pay-as-you-drive, or pay-how-you-drive insurance—could help to lower the cost of owning a car ... Telematics car insurance is based on actual driving behavior and involves having a GPS-enabled 'black box' fitted under the dashboard of your car to track the way you drive. The box records and transmits data back to your insurer about your driving habits."<sup>25</sup>

In other words, insurers get data, lots of data, real-time data, about how someone actually drives. So is that a big deal?

Actually, yes. Telematics provides a fundamentally new class of data for insurers, enabling them to price driver risk possibly more accurately than ever before. Previously, even the most sophisticated of insurers had to rely on estimates, proxies, and predictors in order to determine an insured's risk of incident. These proxies—including gender, age, marital status, driving history (including claims, accidents, and violations), and credit scores—were the best available, and did provide a strong correlation to the risk of an accident. However, telematics changes that paradigm, moving from proxies to causal indicators such as miles driven, when those miles are driven, how the car is driven, where the car is driven, and the conditions under which the car is driven.

This data is likely to be a more precise indicator of risk, allowing for better pricing by insurers. Underwriting is the obvious first opportunity for insurers, with ratings on mileage, time of vehicle use, and driving style and similar variables added to traditional

underwriting factors in order to develop pricing that more closely reflects actual risks.

For good drivers who may otherwise not have been properly represented by previous proxies, telematics offers the promise of rates better correlated to their skills and inclinations. This is clearly a win-win.

This is not to say that there are not challenges. In a heavily regulated industry, privacy is probably one of the most significant challenges any insurer using telematics can face. However, in our connected society, with loyalty cards, electronic toll collectors, red light cameras, and social media in common usage, more and more consumers are willing to accept the trade-off between privacy and the ability to save money.

But what of regulators? Financial services regulators, with good reason, are highly protective of the privacy of consumers. What

would telematics have to offer them? Consider again the proxies currently in use. Consider also the concerns expressed by many, including numerous consumer advocates, over the use of proxies like credit scores or marital status in assessing risk.

Actuarially, the validity of these proxies may not be in question. However, it may be difficult for a regulator to explain to consumers who are excellent drivers, have never had an accident, never speed, and drive relatively infrequently why their educational or marital status should be taken into account when determining rates. While the data association may be statistically valid, the optics are difficult.

Now these same consumers can get the chance to be assessed based on their driving habits. A simple black box plugged into their car will help determine whether or not they get a discount on their auto insurance. That black

**Figure 2. Telematics is more than just a black box**  
Technology provides a rich feature set to draw from.<sup>26</sup>

	Capabilities	Descriptions
Core features	<b>Basic data monitoring</b>	Tracks core measures like miles driven, time of day, and rate of speed
	<b>Driver diagnostics</b>	Uses hardware to identify risky behaviors, e.g., hard braking and cornering
Advanced analytics	<b>Asset/enviro impact analysis</b>	Reports on metrics such as fuel consumption, efficiency, and carbon footprint
	<b>Advanced driver diagnostics</b>	Uses device features for advanced trip logging, driving metric trends, and mash-ups with third-party data
Interactive services	<b>Vehicle and other services</b>	Value-add services such as accident notification, vehicle recovery, navigation, geo-fencing, and alerts
	<b>Driver feedback</b>	Provides drivers with useful feedback on how they can improve driving habits
Data/experience	<b>Modeling datasets</b>	Historical telematic, premium, and claims data for analytics and modeling

Source: Deloitte Consulting LLP

box not only provides better information for the insurer, but also gives a sense of fairness to consumers. Consumers believe they are being evaluated based on their driving ability and driving preferences, not some other factor over which they have no real control and that they feel should have nothing to do with their driving risk.

That direct benefit may be just the beginning. *The Chicago Tribune* reported that not only did one company sell more than \$1 billion in policies by using its popular telematics tool in the year that ended July 2012, but in addition, “Telematics users tend to improve their driving habits while reducing crash rates.”<sup>27</sup>

In that same story, the *Tribune* reported another major insurer finding that “a recent test with a group of employees showed dramatic changes in driving behavior. For example, 25 percent of drivers in the initial group of testers scored in the ideal ‘safe zone,’ but over the course of the test, that figure rose to 75 percent.”

Sustaining innovation is a process of continuous improvement, and that may be where telematics has yet to reach its full potential. Auto insurers face a challenging competitive environment with a relatively flat total premium and no growth in aggregate premium values. Like most insurers, they have made large investments in advanced analytics. Yet the result for too many has been commoditized product offerings for which price-conscious, informed consumers are able to focus simply on discounts and discount-related features, turning those into the exclusive marketing message. Auto insurers need to figure out how to add and differentiate on value.

Interestingly enough, this is similar to the dilemma insurers face in using mobile platforms, as described by Roger Peverelli and Reggy de Feniks, authors of *Reinventing*

*Financial Services: What consumers expect from future banks and insurers.*

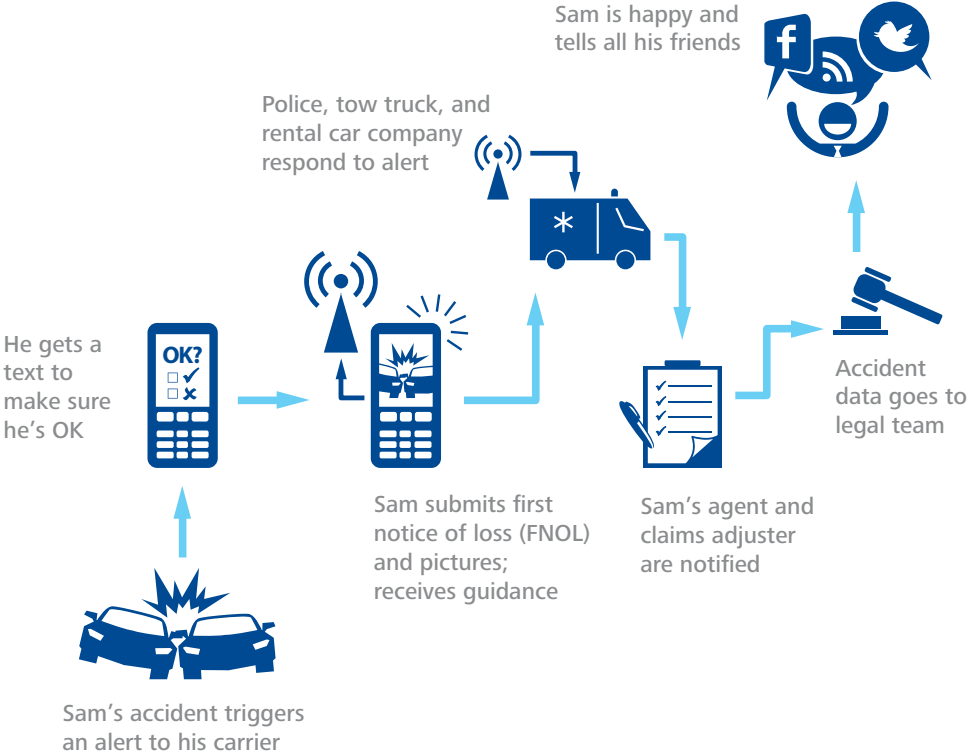
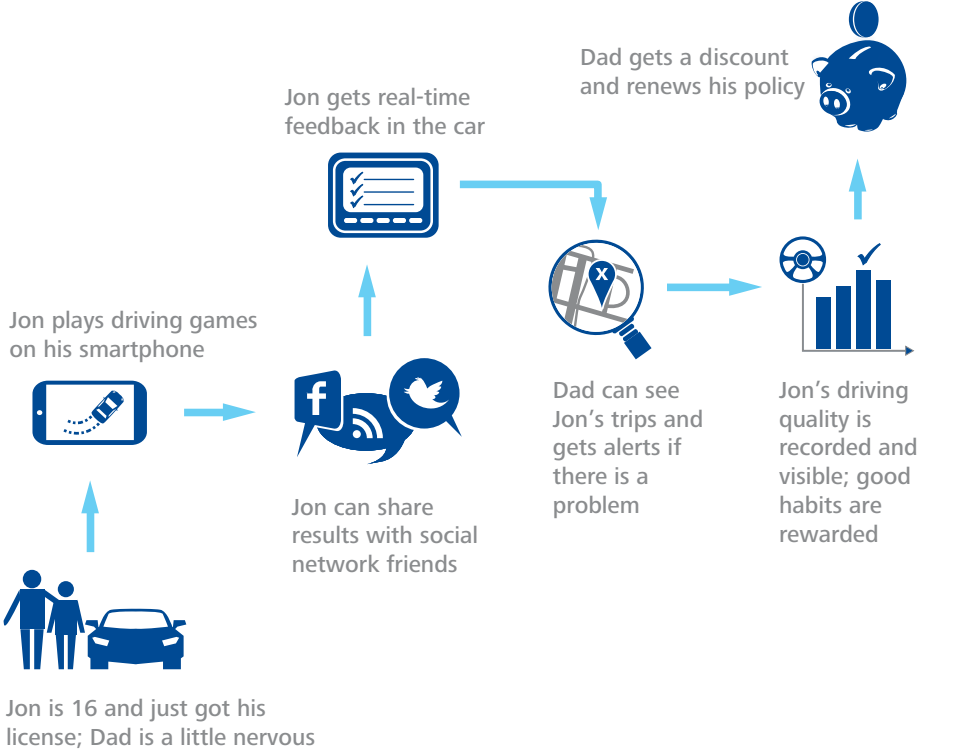
The two liken most current insurer use of mobile platforms to “what Marshall McLuhan called the ‘Horseless carriage syndrome.’ The first car looked like a carriage without a horse ... Financial institutions are still in this stage. They are currently replicating existing regular processes to the mobile channel; enabling customers to conduct their financial transactions, or filling out a claims form. But from what we’ve seen so far in mobile services, we think there is one denominator for success: helping.”<sup>28</sup>

Telematics has already broken the price trade-off, allowing new customers into the market who can now theoretically control the price of their insurance through their behavior, thus making it affordable. Telematics, with its one-on-one link to the insured, offers insurers an almost unprecedented opportunity to help. By offering value-added services enabled by telematics, insurers may be able to differentiate their services and exit the treadmill of commoditization and discount pricing.

Remember the first iPhone? We would submit that part of the reason that that innovation was so successful was the network effect. This is where usage of a product by any user increases its value for other users. Having an iPhone with access to shared apps, or iTunes, or FaceTime created non-price value for users. What if telematics were used to provide traffic information, or information on gas or repair costs, or which movie close by is already sold out, or which restaurant nearby will give you a discount if you come in now?

Clearly, in some fashion, perhaps over the iPhone, this can already be done. But what new innovation yet to be considered could telematics lead to, and what would happen to the first company to introduce it?

Figure 3. Telematics: Innovation to opportunity—two scenarios<sup>29</sup>



# Efficiency

**W**HILE auto insurance writers have the advantage of requirements of law in securing their customer base, life insurance is, as the old saying goes, sold, not bought. How well life insurers market and sell their product is a subject for discussion, but there is no denying that there is substantial room for overall market growth when the Life Insurance Market Research Association (LIMRA) reports that 56 percent of American households lacked an individual life insurance policy as of 2010—a 50-year high.<sup>30</sup>

In a Deloitte Research survey published last year, affordability was cited as one of the major reasons non-buyer respondents did not have life insurance.<sup>31</sup> Fifty-five percent said they had other, more important financial priorities. Another 51 percent wanted coverage but found it too expensive. Twenty-one percent of non-buyer respondents had previous coverage, but let their policies lapse because they could not afford the premiums. This points to an affordability gap, and argues for efficiency innovation to decrease production or distribution costs.

Nor is affordability the only concern. For example, Gen Xers supposedly “have the potential to buy life insurance coverage worth \$3.6 trillion over the next 12 months,”<sup>32</sup> but, among other things, the tests and examinations associated with medical underwriting may turn off potential buyers. This comes at a time when, as the *Wall Street Journal* noted, “The industry is grappling with how to get policies into the hands of middle-class families more cost-effectively. Sales of life policies to individuals are down 45 percent since the mid-1980s.”<sup>33</sup>

What may help is a new system that reduces both the cost and the perceived difficulty

of the underwriting process for consumers. Fortunately, predictive analytics may provide the needed efficiency innovation.

In November 2010, the *Wall Street Journal* examined the use of predictive analytics in life underwriting and found that one insurance company was able to “combine publicly available data with that already gathered by the insurance company to enhance the workflow method by which applicant medical testing is performed.” The *Wall Street Journal* noted that the company found that “[t]he use of third-party data was persuasive across the board in all cases.”

The article further noted: “[I]nsurers could save \$125 per applicant by discharging many conventional medical requirements. ... [T]he cost to achieve similar results would be \$5.”<sup>34</sup>

With predictive analytics, the need for a medical examination is dramatically reduced. So a social good (increased life insurance sales) can be achieved at lower cost by using this tool. That would seem to be a no-brainer.

But there’s a reason innovation is often preceded by “disruptive,” and disruption is not always welcome in a regulated industry. Concerns, often about privacy, have taken center stage for many regulators, slowing the speed of adoption or circumscribing its use in underwriting-related areas.

Some may say we have seen this play before. Regulators strongly objected to the use of credit scores in auto insurance as an invasion of privacy, and it wasn’t until the industry made a clear and convincing defense of their use as a risk proxy that most regulators relented.

One might argue that, having seen how this played out with auto insurance, regulators



should be more open to this type of innovation. But that might be to misunderstand the nature of regulatory process.

On one level, an easy way to understand the regulatory concern is to compare it to that famous psychology experiment in which students, told to focus on how many times the team in white in a basketball game passed the ball, failed to notice a gorilla walking through their field of vision.<sup>35</sup> Some call this inattentive blindness, but a hyperfocus on

is no explicit trade-off to which customers have agreed.

This is a paradox of innovation in a heavily regulated industry. In order for innovation to be used, it needs to receive the imprimatur of all stakeholders, including regulators whose natural bias may be toward maintaining the status quo—often seen by regulators as protecting the consumer. Innovation also imposes a compliance cost on innovators. This may be particularly true in financial services, where,

## There's a reason innovation is often preceded by “disruptive,” and disruption is not always welcome in a regulated industry.

what one perceives as important to the exclusion of all else may be a better description for this purpose.

In a recently published report, researchers had 24 radiologists look at a series of x-rays.<sup>36</sup> As radiologists, these doctors were trained to look for even the least obvious sign of cancer, and focused intently on their work. The researchers found that only four of 24 radiologists noticed the image of a gorilla they had inserted in a series of the x-rays. The bright side, if there is one, is that of 25 laypeople tested, none saw the gorilla.

What do unseen gorillas and privacy concerns have in common? People tend to see what they are looking for. Regulators have to respond to a public that may not necessarily be aware of or convinced of the validity of seemingly unrelated factors as risk indicators. Understandably, they may look at predictive analytics, which by necessity uses a vast data scoop for accuracy, and see only the privacy concerns their primary constituents consider important. Unlike with telematics, there

as former Harvard professor Elizabeth Warren argued, the specificity of some regulations worked against their effectiveness, inhibiting beneficial innovations while failing to regulate dangerous innovations.<sup>37</sup> One need only look at the pre-crisis mortgage market, where what font and type size to use in mortgage papers were prescribed by law but other possible negative outcomes may have been overlooked, to understand how counterproductive too-specific regulation may be.

One lesson of that crisis may be that regulators and the regulated entities need to work together more closely, and earlier in the process of innovation, with an open mind, and with goals, not means, guiding approval decisions. In his review of regulation and innovation in the United States, Luke Stewart, an economic analyst at the Washington, DC-based think tank, The Information Technology and Innovation Foundation, opined: “Regulation should be flexible, allowing the firm and the market to decide the optimal path to implementation. Regulation



should also be expedient—both in its implementation and execution—and unambiguous, minimizing the uncertainty facing firms when bringing new products or processes to the market.”<sup>38</sup>

Those hopeful of such an outcome can draw encouragement from what is happening with solvency regulation. In the wake of the 2008 crisis, rather than move to more prescriptive, rules-based regulation, insurance regulators in the United States have instead introduced the outcomes-based, flexible Own Risk and Solvency Assessment (ORSA) as their major tool.

Perhaps for insurers, one goal should be to work to extend this innovation in solvency regulation to product and other regulation so the regulatory drag on innovation may be minimized and the social good served by innovation maximized.

# How to innovate

ONE constant in the examples we have cited is that they go beyond mere operational improvements. Operational improvements do not in and of themselves constitute innovation. Innovation must allow us to go beyond the realm of the possible, to do what no one could do before.

This is important because such innovation requires going beyond the toolkit normally used for operational improvement. Strategic differentiation enables a company to occupy its preferred spot on the current business frontier, but innovation—expanding the frontier or creating a new one—requires insight beyond, sometimes far beyond, the practices on that frontier.

Professor David Gann, head of Innovation and Entrepreneurship at the Imperial College London Business School, observed: “In a rapidly changing world, innovation is no longer an option, it is a necessity. Companies that innovate have higher survival during downturns, are more profitable, and outpace competitors in periods of economic growth. Success depends upon aligning innovation with your firm’s strategy and using the most modern approaches to innovation management.”<sup>39</sup>

Many may agree with the sentiment, but translating the desire for innovation into reality may require adjustments to a company’s business model.

There may be as many routes to innovation as there are innovations. Crowdsourcing or open innovation is one of the newest methods gaining attention. The late Steve Jobs, toiling by himself to create world-changing innovations, may represent a different extreme. History demonstrates that both extremes, and many in between, can work effectively.

To boldly go where none has gone before is a challenging mission. The question is, as Christensen and Raynor asked in *The Innovator’s Solution*: “What can make the process of innovation more predictable?”<sup>40</sup>

Their answer: “Understanding the forces that act upon the individuals involved in building businesses.”<sup>41</sup>

With that in mind, there are processes that can help nurture innovation. These are not necessarily requirements, but they represent leading practices distilled from the numerous successful innovators with whom we have worked.

Let us touch on some of the main points in this highly condensed summary. Basic to successful innovation is a formal framework (figure 4). Leadership involvement is essential, but so is involvement all down the ranks. This is aided by a clear definition of the vision and strategy for the innovation program, communicated throughout the organization.

While it is important for key executives to be involved directly in establishing the vision for innovation, a broader team of leaders with executive sponsorship can be valuable in execution. An innovation board can govern the execution of innovation processes. That board may consist of leaders of major functions, service areas, geographies, and those directly leading innovation teams. Its objectives could include identifying policies and practices to be supported by the insurer’s leadership, identifying and recommending investments to be made in innovation, and identifying high-potential areas and ideas on which innovation should focus.

Having such a board helps increase the probability of success by establishing innovation as a strategic imperative and allowing

for the needed speed and flexibility in decision making regarding innovation. It also provides an opportunity to identify and share “best practices” throughout the company for recognizing and building strong fundamentals for innovation.

The process of innovation itself may be broken down into three segments: ideation, incubation, and commercialization.

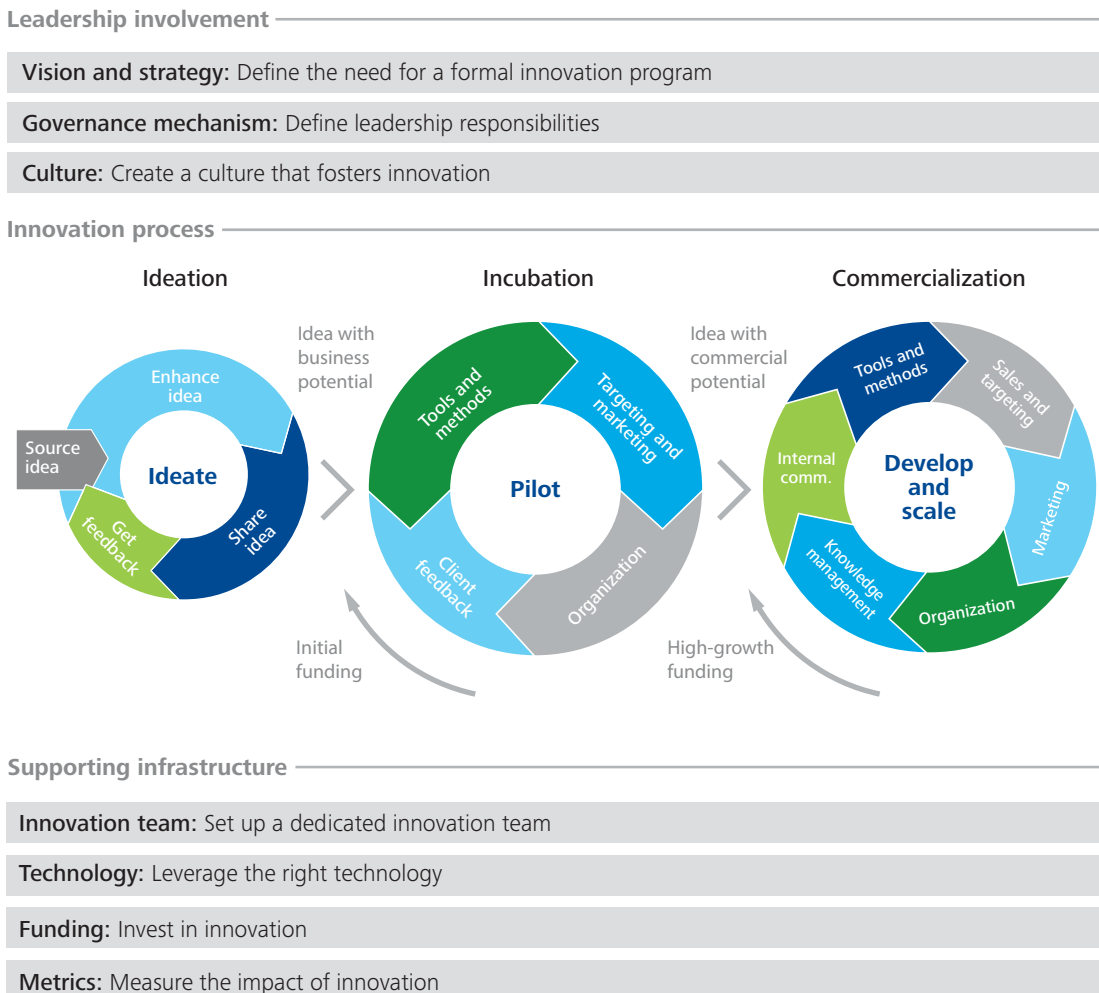
Ideation involves generating and collecting ideas, sharing and enhancing ideas, and evaluating the business viability of ideas toward making an investment decision. When an idea is found worthy of consideration for even a small investment, a business case is developed

to formally define the offering associated with the idea and to make a request for resources to incubate the idea.

Incubation involves building and testing the idea with the goal of gauging its market viability. Having tested the feasibility of the idea, the next step is to commercialize it—establishing the methodology, hiring and training key personnel, and developing sales and delivery capability to facilitate revenue growth.

The end result of innovation properly deployed is broken constraints, new possibilities, and progress for both insurer and insured.

Figure 4. An innovation framework



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# Acknowledgements

Insights and contributions provided by **Andrew N. Mais, Stephen Packard, John Lucker,**  
and **Mark Hill.**



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