Future Trends: A Seismic Shift Underway

How People, Technology and Market Boundary Trends are Shifting the Insurance Industry

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Insurance has been around for centuries, dating back to ancient times. It has been stated that the first written insurance policy appeared on a Babylonian obelisk monument with the code of King Hammurabi carved into it. The “Hammurabi Code”, one of the first written laws, offered basic insurance for individuals if a personal catastrophe made it impossible to pay back a debt. Insurance continued to grow and evolve across centuries and continents. The Guilds in Europe supported master craftsmen with a type of “group coverage” to subsidize them and their families upon injury, disability or death. Deals made in London coffee houses to cover maritime risks were the beginnings of the London Market.

These efforts met a universal and timeless need to stabilize individuals and the economy against risk, while meeting the changing needs and adapting to new developments or technologies that changed and shifted businesses, markets and risk. Each time, it required business leaders to shed sacred notions and wake up to the possibilities of rebuilding on a new foundation while maintaining the old structure long enough to move out safely.

Today, a new, more powerful shift is underway. It is disruptive. It changes the world as we know it. Most shifts are often not readily visible until the impact is felt and seen, when there is a catastrophic change like an earthquake that moves the underlying tectonic plates, requiring everything on the surface to rebalance. Today’s shift is due to the converging “tectonic plates” of people, technology and market boundary changes that are disrupting and redefining the world, industries and businesses — including insurance.

This shift is realigning fundamental elements of business that require us to erase the idea that we can ease our organizations into the new era with minor adjustments. For an industry like insurance that is steeped in centuries of tradition, this shift is poised to be the “big one,” creating both significant disruption and opportunity.

For insurance, the shift is moving from product driven to customer driven strategies; from limited distribution channels (such as agents) to an array of channels based on customer choice; from line of business silos to customer centricity and customer experience for all products across all lines; from simply containing risk to proactively providing personal risk management; and from siloed solutions focused on transactions to a platform portfolio that bridges together real-time interaction for all products and services for a customer, giving them an Amazon-like experience.

Instead of transforming the insurance business using age-old assumptions and traditional business approaches, insurers must look to reinvent the business model to operate and succeed in a new business paradigm, not unlike how Uber reinvented the taxi model. So how do insurers move forward? First, they need to keep their current business viable and growing to fund the future with a portfolio platform of integrated solutions that provide a foundation for reinventing the future — laying the groundwork for a renaissance of insurance.
Second, they must embrace this shift by understanding the tectonic plates at play and accept that everything we have known about insurance was good for yesterday, but not good enough for today or tomorrow. It requires a new business paradigm in how we define and think about insurance. This paradigm will hold onto the business components that work in the new context of people, technology and market boundaries, but it will discard the pieces that are outmoded or irrelevant. The only thing insurers will hold onto with certainty, is the continuing need for insurance that has held true from the Hammurabi Code until today. How insurance is defined and operated as a business needs to shift to a new business paradigm that matches a new world with continual relevance.

**Majesco Future Trends Framework and Majesco Disruption Model**

It’s a fast paced world of multiple trends – from technology to customer demographics, new channels, new competitors and more – disrupting and changing the world we have known for decades. Keeping up with all of these developments is nearly impossible, with new announcements every day.

With so many disruptive forces emerging and converging, Majesco developed a framework to organize and simplify trends, in order to draw a useable map regarding how they are interconnected and changing the insurance industry. As new trends and information emerge and converge, Majesco continues to supplement the framework, adding depth, dimension and understanding regarding each category and its interconnectedness to the whole. The result is an organic effort to continually address the impact of disruptive trends in a timely manner.

Majesco’s Future Trends Framework (illustrated in diagram A) comprises three high-level forces that are driving the insurance industry to change, both incrementally or evolutionary and in a more disruptive, revolutionary manner.

- **People** includes trends covering demographic changes, shifts in needs and risk profiles and changing customer expectations. Collectively, these forces exert pressure on the industry by creating disconnects between what insurance customers need and want and what the industry is currently able to provide to them, in terms of products, services, experiences, and more.
- **Technology** includes new capabilities being created by emerging technologies (especially digital) and the exploding availability of data and analytics capabilities. The existence and continued refinement/development of these capabilities puts pressure on the industry to leapfrog or at least to stay even with current competitors and new ones entering the market. Technology provides both the pressure to innovate and the opportunity to compete in products, services, experiences, offers, cost efficiency and innovation.
- **Market Boundaries** reflects the rapidly changing competitive landscape in insurance, brought about by the emergence of new competitors from both within and outside the “traditional” industry. It represents the blurring and removal of the lines between insurance and other industries, and the expansion and blending of channels for researching, buying and using insurance products and services. Each of these forces puts pressure on the traditional insurance industry players by creating and offering innovations and alternatives for insurance customers that traditional players must match or exceed in order to continue to win and keep customers.
The high-level forces (People, Technology and Market Boundaries) are responsible for insurance’s driving influences — new expectations, new innovations, and new competition that individually exert tremendous transformation pressure on the industry. The forces don’t operate in isolation, however. They are inter-connected and combine to create an even more powerful and disruptive impact on the industry. Majesco developed a model to reflect these forces, highlighting the inter-connectedness of the areas as illustrated in Diagram B on the next page.
The combined impact is creating a powerful market shift that brings the three together, creating unprecedented innovation and disruption. It reflects what author Malcolm Gladwell calls a “tipping point." A tipping point occurs when an idea, trend, behavior or expectation crosses a threshold and spreads like wildfire, changing the fundamentals of business. These are often sudden, as we have seen in other tipping points over the last century, reflected in the move from the industrial age to the information age and now to the digital age. Each move created leaps in innovation and transformation.

The Majesco Disruption Model highlights the following:

- **The generational, socio-economic shift** from the silent generation, through baby boomers, Gen X and Millennials, all the way to Gen Z is fundamentally changing business. In *Growing up Digital*, Don Tapscott identified the net-generation. They represent 88M offspring produced by 85M baby-boomers, eclipsing their parents in terms of both size and impact. Millennials were the first to grow-up surrounded by digital and Gen Z were “born digital,” with technology incorporated into all aspects of their lives, changing their behaviors and expectations. Furthermore, they “live and breathe” innovation.

- **The shifts from the Industrial Age to the Information Age and now to the Digital Age** are underpinned by technology that influences new business and economic trends. The industrial age saw the transformation of businesses and economies due to inventions and innovations such as steam-power, railways, the telephone, the automobile, and engineering (electrical, chemical, civil and naval). The Information Age with telecommunications, mainframe computers, personal
computers, client server technology, the Internet, and Service Oriented Architecture (SOA), is now followed by the Digital Age with mobile, social, cloud, Internet of things, autonomous vehicles, wearables, artificial intelligence, drones, apps, and block chain technologies. Technology is now an embedded, foundational layer across our economy and society.

- The **new market dynamics like the sharing and platform economy are rapidly shifting market boundaries**, disrupting and transforming businesses and industries, while reshaping our economic foundation away from a focus on ownership and towards a focus on access. Access is all about collaboration, sharing, renting, or subscribing — not owning. As a result, customer expectations, experiences, loyalty, and relationships are rapidly changing. Long-held business assumptions and models are being dismantled and replaced with new models, more appropriately aligned to this shift. The traditional boundaries between industries and companies are also being dismantled by technologies that have created platform-based economic shifts. The result is a porous market, where engagement is everything and the relationships between business, customers, channels and partners are, collectively, the new chemistry behind marketing glue.

The convergence of people, technology and market boundary trends have connected the world in ways never before imagined. Had insurers truly imagined it, it is unlikely they would have even known how to prepare. By looking a bit deeper into each trend, we can begin to understand how manageable the convergence can be with the right approach.

**People**

The makeup of the market is shifting. Insurers who ignore the shift will be challenged to retain their customers, let alone grow their businesses. This shift is being driven by demographic, cultural, economic and technological forces. They present new challenges and opportunities for the insurance industry that will require insurers to rethink their strategies, products, channels, and processes to reach a fast changing market.

Customers have new expectations including simplicity, transparency, speed and value, with a relentless demand for online and mobile access. The rapid adoption and influence of social networks further empowers customers and their social communities.

While the industry has been following this shift and some insurers are proactively responding, many are unprepared for the potentially dramatic differences in customer needs and demands that require different products, services, channels and engagement approaches. Insurers must be alert to the new trends and understand the needs and traits of the customer to better tailor their strategies, products and services to appeal to the new demographics. This can be a bit like juggling, because there is no one generation of customer and no one customer type. For example, product and service development must account for current Boomers, GenXers and Millennials, while keeping a future-focused eye on how Millennials will act as they grow older, and how Gen Z will approach their first insurance purchases. A summary of the key trends is highlighted in Diagram C, reflecting the shifts between each business age previously discussed.
### Diagram C: Shifts in People Trends

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Generational</strong></td>
<td>Silent Generation Baby Boomers</td>
<td>Gen X Millennials</td>
<td>Millennials Gen Z</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Silent Gen are half size of Gen X Baby Boomer peaked at 78M in 1999</td>
<td>Gen X at 65.8 in 2014 and surpass Boomers in 2028 Millennials surpassed Baby Boomers in 2015</td>
<td>Gen Z born in 1996 or later with 23M and growing</td>
</tr>
<tr>
<td><strong>Economic</strong></td>
<td>Significant wealth Largest Wealth transfer underway</td>
<td>Gen X peaking earning Millennials slowed due to Great Recession; Large college debt impacts lifestyle</td>
<td>Millennials, Gen Z seeking alternatives to traditional markers of adulthood; large college debt impacts lifestyle</td>
</tr>
<tr>
<td><strong>Home</strong></td>
<td>Own</td>
<td>Own and Rent</td>
<td>Rent, borrow, monetize</td>
</tr>
<tr>
<td><strong>Vehicles</strong></td>
<td>Own, Rite of passage</td>
<td>Own, Rite of passage Average 2+ per household</td>
<td>Public and shared transportation, rent on demand, monetize, fewer getting licenses</td>
</tr>
<tr>
<td><strong>Social &amp; Mobile</strong></td>
<td>Baby Boomers socially active with family and friends and use basic mobile</td>
<td>Millennials at forefront of mobile and social – grew into digital; 67% find YouTube to learn how to do something</td>
<td>Gen Z – Digitally-native with anywhere, anytime via mobile; socially connected and influenced; multi-channel expectations</td>
</tr>
<tr>
<td><strong>Needs &amp; Risks</strong></td>
<td>Traditional path for adulthood (independence, marriage, home, children, retire)</td>
<td>Millennials delay traditional path to adulthood; increased rental, co-habitation &amp; single-person HHs; Delayed retirement of Boomers, More multi-generational households</td>
<td>Millennials, Gen Z delay or avoid traditional path to adulthood; seeking life experiences rather than accumulating things</td>
</tr>
<tr>
<td><strong>Customer Experience</strong></td>
<td>Insurance products for protection; Agent channel driven; Transaction / product oriented</td>
<td>Replicate parents view for the most part; But Millennials begin to use direct / online and mobile and agents – start of multi-channel</td>
<td>Millennials, Gen Z seek simplicity, omni-channel experience and a broader set of solutions beyond insurance product protection to enhance life;</td>
</tr>
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### Changing Demographics, Risk Profiles and Customer Expectations

An understanding of demographics can help insurers foresee how new technologies, business models and changing industry boundaries will play out. These pivotal junctures will determine both the WHAT and the HOW of what will be successful, predicting optimal products and services that will be needed or wanted by consumers as well as what methods will work best to bring them to market and to engage prospects.
and customers. Looking at demographics through a multi-faceted lens, you can see the dramatic impact of the shift underway.

**Generational Categories**: Generational analysis research suggests there are four types of generations that cycle through 80-year periods. Idealist, reactive, civic and adaptive generations take turns “holding court” for about 20 years. Today, we classify the Millennials as civic, Gen X as adaptive, Baby Boomers as idealist and the Silent Generation as adaptive.iii A new generation, IGen / GenZ, is emerging and will replace the Silent Generation. Below is a general profile for each generation.

- **IGen / Generation Z**: This generation is on the heels of the Millennials and will be more ethnically diverse due to immigration. The Center for Generational Kinetics, suggests the first members of this generation were born in 1996, making them 23 million strong with their oldest being 20 years old, entering into the workforce and/or collegeix. This is the first digitally native generation. Its participants have not known a world without smartphones or social media.

- **Millennials**: Millennials are projected to surpass the Baby Boomers as the largest group in 2015ix. As of Q1 2015, they became the largest group in the labor force, at 53.5 million/34%. The growth of this group is fueled by immigration and is expected to peak at 81.1 million in 2036vii.

- **Generation X**: While this group is smaller than the two generations surrounding it Pew says it will continue to grow for two more years, peaking at 65.8 million in 2018. It will surpass the size of the Baby Boomers in 2028vii.

- **Baby Boomers**: Baby Boomers have been the reigning population size champions for some time, peaking at 78.8 million in 1999. The first Boomers turned 65 in 2011 and 10,000 will reach that milestone every day until 2030. They are expected to dwindle to only 16.6 million by 2050viii.

- **Silent Generation**: This generation is less than half the size of Generation X in 2014 and is expected to all but disappear by mid-century as they are increasingly replaced by aging Baby Boomers.

**Population**: The current U.S. population of about 323 million (as of this writingix) is expected to reach about 400 million by 2050, while the world population is projected to rise from about 7 billion to 9.6 billion in the same time periodx. Increases in life expectancy, thanks to advances in nutrition, health care and sanitation and decreasing birth rates have led to an aging world. The number of people 85 years and older is expected to rise to 19 million by 2050, triple the current number, and the number of people on Social Security and Medicare will double between 2000 and 2030 to about 80 millionxi.

Our aging population will put a strain on our social support system and challenge companies/industries to develop solutions and services for this large cohort and the younger generations that support them.
**Economic:** Issues and events have a large influence on attitudes, expectations and behaviors. No event may be more impactful in recent times than challenging economic conditions of the Great Recession of 2007-2009. The U.S. median household income declined sharply in the recession and has struggled to recover ever since. Homeownership and home values declined during the great recession until Q1 2012, when home values started to increase again, suggesting housing affordability is still an issue. As a result, Millennials have delayed many of the traditional markers of adulthood (including independent households, families and vehicles) and Gen Z are seeking new alternatives via the sharing economy.

The collective, macro-level behaviors of all citizens have had a significant impact on three extremely important entities for the insurance industry: households, businesses, and vehicles – all of which need insurance for protection.

**Households:** A household is formed by life events, such as when children grow up and move out. Between Q2 2001 and the end of 2006, the U.S. saw quarterly year-over-year household formations averaging a little over one million. However, starting in 2007 and running through the third quarter of 2013, that average dropped to just over 600,000. This period was marked by numerous quarters of year-over-year declines in owner-occupied household counts and partially-offsetting increases in renter-occupied households. Encouragingly, the Census Bureau has reported year-over-year increases of about a million and a half households for the past four consecutive quarters. However, renter-occupied households continue to dominate and appear to be the new norm for new household formations.

This will put downward pressure on homeowner premiums and push insurers to develop new products and services for renters insurance, as well as driving insurers to find new and more efficient channels to serve renters.

**Businesses:** The U.S. has long been known for its entrepreneurial spirit and, according to Gallup, business startups outpaced business failures by about 100,000 per year until 2008. But that year, for the first time since records were kept in the late 1970’s, the number of new business startups and failure crossed, and total net business failures since then number 70,000.

Millennials, with their high education levels, native digital experience and a huge population, should be ideal candidates to reverse this trend. However, the statistics so far show that the rate of business formation among the 20-34 year age cohort has declined since 2011, and that Millennials are not starting companies at the same rate Boomers did at this same age.

Encouragingly, the Kauffman Foundation’s 2015 Startup Activity Index reported some positive developments on the startup front. The rate of startups had increased incrementally in 2014, reversing the decline started in 2009, and about 80 per cent of these were driven because of opportunity and not out of necessity, which was back to pre-recession levels. The report also noted that Boomers and immigrants were among the most active in starting new companies.

**Vehicles:** There is conflicting data on the state of automobiles. U.S. vehicle miles traveled took a sharp decline during the Great Recession and stayed relatively flat until about 2014, but have been increasing steadily since then, thanks to improving economic conditions and dropping gasoline prices. This stands in contrast to a slow but steady decline in the proportion of Americans – across all age groups.
younger than 60 – who choose not to get or renew drivers licenses, according to data from the Federal Highway Administration and a report by *The Wall Street Journal*. The net effect is that drivers 85 years and older are the fastest growing group of drivers (as a percentage) in the U.S.\(^{xx}\) The waning interest in driving, at least among Millennials and Gen Z, is attributed to multiple factors like affordability issues from student debt, car prices, costs of insurance and maintenance, the availability of ride-sharing services and public transportation in the urban/suburban areas they are moving to, and the ability to connect with friends virtually via their mobile devices. A consumer survey showed that the percentage of consumers who use Uber rose from 4% in 2014 to 17% in 2015, and that 22% of these users were putting off a new car purchase because of Uber’s availability.\(^{xx}\)

This will put downward pressure on auto premiums and push insurers to develop new products and services for a new generation of drivers seeking alternative transportation options.

**Social and Mobile:** The rapid adoption of broadband, widespread mobile connectivity and digital social networks has led to a new “social operating system” where loosely connected, broadly dispersed groups are taking the place of close, local groups and formal hierarchies and bureaucracies. This includes reliance on (and trust in) crowd-sourced advice for anything from whether a company is reliable to how to file a claim. Gen Z and Millennials are on the forefront of this change but it affects all generations. And while consumers still place the most trust in purchasing recommendations from people they know, their second most-trusted source is from consumer opinions posted online, according to Nielsen research.\(^{xvi}\) Mobile and digital technologies are the key factors that are accelerating this phenomenon. As of Q3 2015, 45% of all organic searches came from mobile devices.\(^{xvii}\) This practice also extends to insurance. Half of all smartphone owners in the U.S. who shopped for insurance began their research/shopping process on their devices.\(^{xviii}\) Mobile provides consumers with “anytime and anywhere” access to information. Recent Google research found that nearly 20% of smartphone users research or purchase products while they’re in bed in the morning or evening.\(^{xix}\) Their research has also shown that 91% of mobile users turn to their phones during specific tasks and situations to help them get things done. In fact, over 67% of Millennials agree that they can find a YouTube video on anything they want to learn.\(^{xx}\)

**New Needs and Risks:** The ubiquitous connectivity afforded by mobile devices and the internet is also helping consumers find ways to ease the economic hangover of the recession. Known as the Sharing Economy, consumers connect with people to rent or borrow assets like cars, rooms, vacation homes, and household items instead of laying out more money to buy and own these assets. The owners of these items can capitalize on streams of income instead of having them sit idle when they are not needed. This confluence of economic conditions, technology and evolving social attitudes about ownership has given rise to many now-familiar companies like Uber, Lyft, ZipCar, Airbnb and VRBO.

Banking and payments are increasingly digital and mobile. Mobile’s share of weekly banking activity among people with bank accounts was 27% in 2014, up from only 9% in 2010.\(^{xxi}\) Currently, 63% of men and 58% of women save their credit card information on websites they purchase from frequently.\(^{xxii}\) Adding to this momentum, those paying with a mobile device at the point of sale is forecast to grow from 16.4M in 2014 to 37.5M in 2016, with the corresponding value of those purchases rising from $3.68B to $27.05B.\(^{xxiii}\) This free exchange of information is the new currency. The ever-increasing volumes of digitally stored and transmitted information, however, makes people and organizations increasingly vulnerable to data breaches and cyber security concerns, resulting in the market for cybersecurity insurance growing from an estimated $2.75B in 2015 to $7.5B by 2020.\(^{xxiv}\)
Customer Experience: Insurers that pay attention to public opinion will notice that a complexity backlash is now resulting in a simplicity mandate. Annual research done by Siegel+Gale on the simplicity of brands shows that both general insurance and health insurance consistently come in last in their simplicity index. The report names the single least simple brand in the world in both the 2014 and 2015 rankings as the insurance company, AXA. A quote from the report outlines some of the reasons why. “Survey respondents are frustrated by AXA’s lack of clarity in everything from pricing to digital experiences. ‘Explanations are garbled and hard to understand,’ writes one, adding “their website isn’t user-friendly.”

The complexity of insurance is one of several significant barriers preventing the industry from fully letting consumers and businesses transact and interact in an omnichannel manner. To protect themselves, they need to unabashedly model the activities of companies that lead in customer experience. David Srere, co-CEO and chief strategy officer, at Siegel+Gale gave this ominous statement about the 2015 Global Brand Simplicity Index: “This year’s Global Brand Simplicity Index highlights a trend to watch—emerging companies built upon simplicity are incorporating it into everything they say and do, and in the process winning customer minds, hearts, and all-important wallets. Their more established competitors should take notice.”

Emerging Technologies and Data Explosion

According to research firm IDC, one-third of leaders in virtually every industry will be disrupted by competition from both new and established companies by 2018. These new competitors will leverage emerging technologies to innovate product and service offerings, improve how they engage with customers, reach new markets, and disrupt business models, including operational processes, cost structures, revenue and profit models. They will seek new partners to reach and expand their market presence and opportunities.

Since the start of the Digital Age, technology has been embedded into the fabric of our economy and society, creating what is described as a “platform economy.” Because of this, technology levels the playing field for new, innovative companies to emerge as a new breed of insurance competitor like Progressive, Esurance, CoverHound, MetroMile, Google Compare or Zenefits. Unfortunately, traditional insurance companies have been slow to respond to adoption and use of these technologies and to the new startups and business models.

The disruption for insurance is two-sided. First, it is disrupting existing client businesses, risk models and creating new businesses and risk. Second, it is disrupting the business of insurance with new competitors and business models that challenge age-old business assumptions. This is occurring at the same time that many insurers are modernizing their core systems foundation, a necessary process that is considered table stakes in this new environment.

At the core of this disruption are emerging technologies and the explosion of data. The pace of introduction, experimentation, and adoption of emerging technologies is gathering speed and having a

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1 Google decided in February 2016 to shutter Google Compare and Zenefits has had compliance and culture issues that have led to negative press. While these should be given proper consideration, they should not be interpreted as signals to stop innovating. Insurers should not view Zenefits’ troubles as a sign that the industry’s complex regulatory environment will keep new challengers out. Nor should they view Google’s retreat as an “I told you so” moment. They – and those observing them – will identify their mistakes, learn from them and continue to experiment, because the stakes are too big to ignore.
profound and multidimensional impact. It comes at a time when the convergence of advancing technologies, increasing customer expectations and demands, and access to capital for new technology start-ups are magnifying the extremes – from disruption and destruction to innovation and transformation.

The impact to the insurance industry will be more profound, pivotal, and game-changing than ever before. Never before has such a breadth and depth of technology advancement had as much influence as what we are experiencing now. The list of breakthrough technologies and advances in their use continue on a rapid pace of experimentation and implementation, creating new businesses and challenging existing ones, building a new portfolio of products and services and new partner ecosystems.²

In that spirit, here are some of the most impactful emerging technologies that compel the insurance industry to do things differently and to do different things, underpinning a renaissance in insurance.

**The Internet of Things (IoT):** The IoT is redefining, disrupting, and creating businesses at an unparalleled pace. Gartner indicates the market for Internet of Things devices is poised to explode and will reach nearly 21 billion connected devices by 2020. Including consumer devices, Gartner predicts IoT devices will encompass more than 6.4 billion connected objects in use by 2016, a 30% rise from 2015. Furthermore, the IoT market will support total services spending of $235 billion in 2016, up 22% from 2015.³ These numbers reflect the explosive use of IoT and the opportunities for new revenue potential of innovative services linked to IoT. The result is that IoT will accelerate business pressures and disruption of traditional insurance models, while opening new opportunities for customer engagement, a renewed focus on risk management and new revenue and business growth from services. IoT sensors offer unprecedented access to real-time data that can be transformed into assessing and responding to risk more accurately and effectively, to mitigate or eliminate risk.

**Ingestibles:** The health industry is beginning to popularize ingestible cameras and internet-connected sensors to manage an individual’s health in real time. As an example, Proteus Digital Health provides a pill-sized ingestible sensor that measures if patients are taking medications as prescribed by their doctors.⁴

These technologies can have profound impact for insurance, well beyond healthcare. From long-term care to disability to workers compensation insurance, ingestibles can help reduce risk, ensure effective recovery, shorten time back to work and reduce costs, all while providing personalized service.

Ingestibles are also being used for livestock. Vital Herd, an IoT startup is focused on cattle, both dairy and meat, addressing consumer pressure for traceability and transparency in food production. They have estimated that decreased food production due to cattle deaths, sickness, and upset stomachs has resulted in an estimated $10 billion in annual losses in the U.S.⁵ Traditionally, cattle health and nutrition management has been based on visual observation and experience. With IoT, the opportunity for earlier intervention to manage animal health and food production can reduce or eliminate losses. Traceability of origin is now possible, reducing business risk and ultimately insurance risk.

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² For an excellent visual summary of the activity in insurance tech, see CB Insights’ “The Periodic Table of Insurance Tech”, https://www.cbinsights.com/blog/insurance-tech-periodic-table/
Smart Buildings: From personal homes to commercial buildings, IoT will continue to embed connected chips into an array of physical assets that can be controlled remotely via mobile apps, external solutions and value-added services that are personalized and that empower customers to manage their risk. Consider the implications for insurance if customers could report potential water leaks before pipes or water heaters burst. What if stoves and ovens could be automatically shut off to avoid a fire? Insurers would certainly benefit from preventive plumbing and heating, ventilation, and cooling (HVAC) warning systems that could resolve problems immediately and remotely to reduce risk and damage to buildings and contents. Companies such as Nest will ultimately turn motion, sound, and temperature detection into tools for use in catastrophe prevention.

With nearly 60% of homeowners’ insurance premiums focused on fire peril, the impact of IoT in reducing or eliminating risk will have profound implications on current business and revenue models. As a counter measure, insurers can develop new value-added services that provide monitoring, alerts and more that could generate new revenue and provide unique customer engagement opportunities.

Wearables: Sensors embedded in clothing, watches, or other wearables are one of the fastest growing uses of IoT. Around 50% of consumers expect wearables to provide full health monitoring. If utilized in the health and wellness ecosystem, wearables will undoubtedly have a dramatic impact on health insurers and their models of care. With the wearable technology market estimated to reach 385 million people by 2019, wearables are poised to be the next “smartphone” disruptor for customer engagement and experience. As a result, a number of insurance companies are using wearable devices like FitBit, Apple Watch and Nike+ FuelBand and the data generated from them to better assess individuals for healthcare, life insurance, workers compensation and investment rewards based on their activity and lifestyle. Innovative insurers are using wearables to provide improved underwriting discounts, rewards, claims monitoring, and new services using real-time data. The new services can include advice on healthy living, real-time healthcare and prevention, real-time monitoring and assistance in treatment or recovery plans, and determining return to work timeframes for injuries or other health related incidents. These all contribute to enhanced customer experiences, longer customer lives and improved insurer investment options.

Autonomous / Driverless Vehicles: From the early days of telematics and the first use of IoT, a range of technologies beyond IoT have converged in autonomous / driverless vehicles. And while there has been much speculation over the last 2-3 years on when these vehicles will be available, insurers now recognize they already exist and are driving on the roads, from traditional manufacturers like BMW and Volvo to new automotive companies like Google, Tesla, and others. In Ernst & Young’s report, 2015 US Property and Casualty Insurance Outlook, they note the consequence of these vehicles will be the reduction in the size of the auto insurance market by 60 percent within 25 years.

Traditional automotive companies, new start-ups and the federal government are rapidly coalescing around the opportunity and potential for autonomous / driverless vehicles and creating significant momentum that could quickly reduce the deployment timeframes of these technologies, placing further pressure on insurers to respond. The age-old assumption that regulation will inhibit new entrants and challengers is rapidly fading away, with a new focus on consumer value and safety. Consider the following developments:
Munich Re America’s "Mobility Domain“ will focus on establishing strategic partnerships and pilot projects that will enable the company and its clients to develop risk management solutions for such areas as vehicle telematics, shared mobility, crash avoidance systems, and autonomous driving.

Google and Ford Motor Company, the second largest US automaker, are discussing formation of a partnership to develop autonomous car technology.

GM, the largest US automaker, is investing in Lyft and getting a seat on Lyft’s board with influence on Lyft decisions. This represents a significant step beyond the traditional in-house R&D approach.

In early 2016, the federal government proposed spending nearly $4B in over the next ten years to accelerate the acceptance of driverless cars on U.S. roads in an effort to curb traffic fatalities and travel delays.

Blockchain: Blockchain is a peer-to-peer digital technology and a process for keeping and validating records. It is trusted, secure and reliable, but also an open and distributed system. It utilizes a central ledger that is voted on, added to and validated by a peer network. Blockchain technology is mostly known for its use within Bitcoin and other cryptographic currencies emerging in the marketplace, but it is also a transformative protocol with applications far beyond this scope, with potentially significant implications for insurance.

Blockchain enables the creation of trusted contracts in a publicly-verifiable setting. “Smart” insurance contracts built on blockchain could automate insurance processes in innovative ways, allow policyholders to self-administer, or pay out claims. Even more disruptive, a report titled, How Blockchain Technology Could Revolutionize the 1.1 Trillion Insurance Industry, noted that blockchain technology could favor the emergence of alternative risk management models — shifting away from risk pooling, the predominant model in insurance. Blockchain-based risk management models could include self-managed or administered risk protocols, peer-to-peer insurance platforms and even fully-funded solutions. The report further notes that blockchain-based identity ledgers could be valuable for the insurance industry, even rivaling government databases in utilizing biometric authentication. Identity ledgers could provide the foundation of a blockchain business model which can define those who are authorized to be part of a peer group, or part of a list. The list could address security breaches and identify validation, streamlining digital authentication and effective management of personal data that together could create enhanced, direct and efficient customer relationships while reducing identity and claim frauds, particularly with the increased level of personal data.

As an example, Visa plans to use blockchain technology to revolutionize both car purchase and ownership. A prototype app assists customers with easy and quick vehicle purchases, enabling model, color and required options to be selected beforehand, locating the right vehicle, and allowing people to walk into the showroom and buy/lease it within five minutes. Another related app facilitates simple insurance purchasing, without the need for document faxing, by leveraging the car identity registered with Bitcoin’s blockchain. In addition, vehicle maintenance and servicing is available in the app. Service providers bid for the service work through the app itself, with the service technician knowing all the work that is needed before the vehicle arrives. This creates a much more efficient service process for auto repair services following a claim.

Mobile Apps: In a Global Futures and Foresights report, What’s Hot in 2016 Technology Trends, they note that in 2020, consumers may be using fewer apps on their devices. Instead they will rely on virtual assistants in the cloud — ‘Siri’-like personas that they will learn to trust. This will usher in a post-app era. The report acknowledges that Forrester expects the 2015 app download total to hit 226 billion, and
predicts growth at five-year compound annual growth rates of 14.2%. However, the nature of some of these apps is shifting in exciting ways. In the years leading up to 2020 about 12.9 billion mobile biometric apps are expected to be downloaded by some 2.2 billion users while some 1.3 billion Augmented Reality (AR) apps are expected to be downloaded by 2019. While apps currently act as the user interface in today’s digital world, the report suggests that apps will increasingly be passed over in favor of more open platforms that link content from various sources, including IoT, to proactively find and use the information in other contexts. In other words, virtual assistants will bridge the natural gaps that are inherent in app switching and in the use of multiple, related apps.\textsuperscript{xliv}

Many insurers are still trying to develop mobile apps and capabilities, twelve years after the introduction of the smartphone and apps. With major technology companies like Facebook and Google launching new augmented reality solutions that are relatively inexpensive and accessible, augmented reality has the potential to impact users, just as the smartphone did at one time. If customers begin shifting to smart virtual assistants within the next 2-3 years, insurers should proactively begin to plan for this shift, rather than being caught “behind the eight ball” as they initially were with the smartphone.

**Drones:** During 2015, drones emerged as one of the top technologies in experimentation among insurers. State Farm, AIG, USAA, Erie, American Family and other large insurers made announcements and began seeking FAA approval to test and explore the use of drones within their business. At the same time, some independent adjusters began using drones for claims. Companies like Amazon, FedEx and Domino’s Pizza are exploring drone delivery. As 2016 unfolds, drones were one of the top three technologies highlighted throughout the 2016 Consumer Electronics Show (CES), fueling their interest and experimentation.\textsuperscript{xlv}

Drones have rapidly taken consumers and industries by storm. They have changed how we see things, often more clearly and accurately. With the momentum in access, affordability and experimentation by insurers and their potential customers, they create a unique opportunity to offer new products, change how insurers assess risk, process claims, respond to catastrophic events, reduce fraud, and deliver new customer experiences. The opportunities for insurers include:

- Enhanced property assessment
- Improved underwriting and pricing
- Improved claims efficiency, effectiveness and safety using pictures to validate damage, eliminating potential fraud and claims losses
- Enhanced CAT support with a quick, efficient way to survey an area to assign adjusters to the most vital areas and to assess properties quickly and safely
- Enhanced customer experience by quickly paying claims
- Using drones at renewal to provide an updated view of the property and to recommend any adjustments, ensuring appropriate coverage
- Using the visual data gathered to analyze and identify new product, market and service opportunities based on the aggregate and historical view.

**Data:** The insurance industry’s historical business model is based on gathering and using information regarding risk and deciding which large bucket of similar risks are consolidated in order to price and underwrite that risk. But times are changing. Technology advances have made new sources of data available to truly innovative competitors that are developing novel ways to interact with customers, evaluate risk, offer innovative products and reach customers via new channels.
In 2014, BCG and Morgan Stanley envisioned a worst case scenario for traditional insurance companies. The scenario envisions new competitors entering the market by leveraging consumer frustration with their insurance experience and utilizing new data sets to better evaluate and price risk. Though the scenario is considered a “worst case,” every aspect of it is possible and in some cases, currently happening.xlv

The insurance industry has entered into the enlightened and strategic age of analytics, powering the opportunity for a renaissance in insurance. Insurance companies have relied on large, historical data sets that have been used for descriptive analytics to assess what happened and what may happen in the future; diagnostic analytics to assess why something happened; and eventually predictive analytics to assess what will happen in the future. And while the industry has often considered data as its lifeblood, the excitement and potential of big data has re-energized data-related activities. Some key technologies and trends have emerged that are changing traditional approaches to using and viewing data, as well as the types of data being used. For example:

- Few, if any, insurance carriers use true **prescriptive analytics**, a type of analysis used in many other industries for years where companies draw upon their own data, third party data and advanced technology to judge what should happen and what is needed to make it happen. Prescriptive analysis would help insurers to anticipate not only what will happen, but also when and why, so they are in a better position to target the right customer and mitigate adverse events.

- While many insurers have moved into some aspects of predictive analytics, most predictive solutions are sub-optimized due to both limitations in staff expertise (to leverage insights) and limited data sources, both internally and externally. Now, however, **contributory databases** exist, where insurers contribute selected detailed data to a shared, central store that enables deeper and broader insights.

- The explosion of data, from within and outside the industry, structured and unstructured, is creating **big data** opportunities and challenges. It is placing tremendous pressure on insurers to decide how to effectively manage and use the data, both technically and financially, and is creating shifts toward new data architectures and technologies like Hadoop and data lakes. Data lakes, using shared services like Hadoop, provide new, deeper insights based on broad, diverse sets of data, including transactional, visual, voice, unstructured, social, IoT devices, and others.
In a 2011 MIT / IBM study about data technologies, they determined that the companies that were best at leveraging data and analytics were continuing to get better at it faster, extending their lead over those that were not doing it well and creating a broader competitive gap. In today’s new competitive landscape, those who effectively and innovatively leverage data will be best positioned to capture market opportunities and compete against new market entrants that see data as the strategic differentiator.

Market Boundaries

The combination of the sharing and platform economy trends is dissolving traditional boundaries and the long-held competitive advantages of incumbents. Just as startups can now access technology as a service, they can also access resources (sourcing and crowdsourcing), designing, manufacturing and more as a service, giving any company access to the resources needed to compete. As a result, companies must compete on more than brand, product, price or distribution. They must compete on innovative approaches.

Highlighting this quandary for the industry and traditional insurers, Citigroup released a statement on February 15, 2016 suggesting that, “Google’s parent, Alphabet Inc., should buy American International Group Inc. to expand into financial services, and turn the insurer into a laboratory for innovation. There is a perfect convergence of reasons why it might be exactly what AIG and the insurance industry needs. And the tech community could help solve what could well be one of the most challenging problems it could tackle.” For a closer look at the evolution of insurance market boundaries, leading up to such cross-boundary thinking, see Diagram E, below, which highlights the shifts between the Industrial, Information and Digital Ages.
## Diagram E: Shifts in Market Boundaries

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industry Boundaries</strong></td>
<td>Vertical oriented; Little to no overlap / mix</td>
<td>Vertical dominant with start of extending boundaries (i.e. banks, financial firms)</td>
<td>Fading industry boundaries on providing risk products and new services tied to risk avoidance / elimination</td>
</tr>
<tr>
<td><strong>Distribution Channels</strong></td>
<td>Primarily agent (captive and/or independent agent) focused</td>
<td>Expansion to direct, aggregators, comparison sites, alternative channels (retail, car dealerships, etc.)</td>
<td>Multi-channel, digital channels backed / supported by agents when needed</td>
</tr>
<tr>
<td><strong>Economy</strong></td>
<td>Mass production of products, purchased in person at retail outlets</td>
<td>Consumer driven, moving toward online purchases</td>
<td>Emergence of Sharing Economy and the sharing / reuse of assets rather than purchase, all done via online/digital</td>
</tr>
<tr>
<td><strong>Business Models</strong></td>
<td>Product and Distribution driven traditional models; Companies do everything internally</td>
<td>Product and Distribution driven traditional model with start of consumer driven; Emergence of ITO / BPO; Entrance of some new startups / greenfields (i.e. Esurance, Progressive, Homesite)</td>
<td>Emergence of consumer driven business models; New models emerging rapidly (i.e. Lemonade, Assurestart, etc.); Active use of greenfields, startups by existing and VC backed companies</td>
</tr>
<tr>
<td><strong>Competitors</strong></td>
<td>Within the vertical; Regional focused</td>
<td>Emergence of new consumer-driven startups focused on PL; Aggregators and Compare sites increase competition for PL</td>
<td>Within and across verticals; VC backed startups</td>
</tr>
</tbody>
</table>

### Sharing Economy:
According to a Forbes article in January 2013, it was estimated that for 2013 the revenue flowing through the shared economy directly into peoples’ wallets would surpass $3.5 billion, with growth exceeding 25%. This rate of peer-to-peer sharing was moving from an income boost to becoming a disruptive economic force.\(^{\text{xix}}\) Fueling this trend are the Millennials, a large and influential economic group. Strapped with high college loan debt that limits their ability to purchase homes, cars, or other high-value items, they have turned to subscribing instead of buying. Millennials have grown up with technology that enables sharing, access, and subscribing rather than owning. The shared economy empowers people to become co-creators, resource funders, peers, customers, and developers of new businesses that are disrupting and transforming traditional industries leveraging technology to create a new business paradigm based on innovation.
Fading Industry Boundaries: In a 2015 speech, the president and CEO of Volvo stated that they will "accept full liability whenever one if its cars is in autonomous mode." Furthermore, Volvo is creating a “connected experience” through the use of their connected car system, leveraging sensors and data from the car along to create new services they or their ecosystem of partners can deliver. These would include: finding, booking and paying for a parking space, buying groceries online and having them delivered to a parked/locked car, and receiving icy road warnings using road friction data and communication between cars. Each of these represent an enhanced customer experience and the potential for new services revenue. Volvo is poised to provide the risk mitigation and service traditionally provided by insurers.¹

Expanding Channels: Aggregators, online agencies/brokers and online comparison sites are growing rapidly because they address the consumer expectation for transparency, in the form of apples-to-apples price comparisons of insurance options, and anytime/anywhere/any way access in most cases via digital and mobile. Aggregators ask site visitors to provide basic information about themselves, then sell these as leads to participating companies who follow up to provide quotes. Online agencies work with select groups of carriers to provide quotes and allow customers to close the sale with an agent or online, depending on availability and customer preference.

Insurance comparison sites started in Europe but are expanding to the U.S. For example, comparenow.com in the UK does business as compare.com in the U.S. Sites like these provide actual quotes for a number of different carriers, then transfer prospects in real time to carriers to close the sale, either online or through an agent/employee. Online sites like these currently have over 70% share of the auto insurance market in the UK.²

In addition, insurers are expanding distribution into other industries and models to reach customers in innovative ways. Retailers such as Walmart, Overstock.com, Alibaba, and Costco are good examples of non-traditional insurance channels. Almost anywhere a traditional or new retailer has significant customer reach, there is the potential for an insurance product to be offered. While insurance agents and brokers view these as competition (and they should), new, innovative channels continue to emerge and grow.

New Business Models and Competitors: Many new companies in the insurance space are focused on risk mitigation and prevention as opposed to the traditional indemnification and recovery from accidents. Preventive health and wellness companies hope to redesign the idea of healthcare. Clover Health, JH Vitality, ManulifeMOVE and others are focused on changing lifestyles and promoting lifelong health. We also include peer-to-peer models here, as they leverage the technology and social trend of social networking (discussed previously). Companies like Friendsurance allow customers to create groups of people who buy policies from the same company, brokered by Friendsurance. Members handle small claims while the insurance company covers larger ones. If the group remains claims-free for a certain period, all members share in a premium discount.

Another interesting case comes from China. Pressured by increasing competition in the Chinese life insurance market, and the demographic trend of an aging society, Union Life and several other Chinese insurers are expanding into adjacent products and services. Union Life has begun to build retirement communities in several locations throughout the country. The company has also created policies that are
directly tied to these facilities, with a benefit that guarantees policyholders a place to live in one of the facilities once they reach a qualifying age. Diagram F highlights many of these new business models.

Diagram F: New Insurance Entrants & Business Models

<table>
<thead>
<tr>
<th>Company</th>
<th>Country</th>
<th>Short Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BitSight</td>
<td>US</td>
<td>BitSight empowers insurers and brokers with the insight needed to seamlessly identify and measure cyber security risk.</td>
</tr>
<tr>
<td>Bought by Many</td>
<td>UK</td>
<td>Peer-to-peer company offering group buying for niche, hard to cover needs.</td>
</tr>
<tr>
<td>Brolly</td>
<td>UK</td>
<td>App-based tool for managing all insurance policies and information</td>
</tr>
<tr>
<td>Clover</td>
<td>US</td>
<td>Use patient-centered analytics and a dedicated care management team to identify potential risks and directly provide preventive care.</td>
</tr>
<tr>
<td>Cuvva</td>
<td>UK</td>
<td>Mobile app for hourly car insurance</td>
</tr>
<tr>
<td>Embroker</td>
<td>US</td>
<td>Online platform for small-medium businesses to manage all insurance policies and information</td>
</tr>
<tr>
<td>Friendsurance</td>
<td>Germany</td>
<td>Peer-to-peer company offering group buying of insurance and pooling of group funds to pay deductibles and small claims. Group members get a refund if no claims are filed or are small.</td>
</tr>
<tr>
<td>Guevara</td>
<td>UK</td>
<td>Peer-to-peer company offering group buying of car insurance and pooling of group funds to pay claims.</td>
</tr>
<tr>
<td>HCC</td>
<td></td>
<td>Online portal for its agents to write Artisan Contractors coverage for small artisan contractor customers</td>
</tr>
<tr>
<td>Inspeer</td>
<td>France</td>
<td>Peer-to-peer company aimed at sharing costs of deductibles.</td>
</tr>
<tr>
<td>John Hancock Vitality</td>
<td>US</td>
<td>Uses Fitbits and gamification to increase customer engagement and lead to potential discounts.</td>
</tr>
<tr>
<td>Lemonade</td>
<td>US</td>
<td>Claims to be the world's first peer-to-peer insurance carrier. Planning to launch in 2016.</td>
</tr>
<tr>
<td>Manulife MOVE</td>
<td>China</td>
<td>Uses fitness trackers and gamification to increase customer engagement and lead to discounts on selected critical illness or medical plans.</td>
</tr>
<tr>
<td>Metromile</td>
<td>US</td>
<td>Auto insurance company meeting the niche needs of low mileage drivers and gig economy drivers</td>
</tr>
<tr>
<td>Security Scorecard</td>
<td>US</td>
<td>&quot;With SecurityScorecard your prospects reduce the financial, reputational, and legal impacts of breaches and other security events.</td>
</tr>
<tr>
<td>State Farm</td>
<td>US</td>
<td>State Farm is looking at the possibility of reinventing itself as a &quot;Life Management Company.&quot;</td>
</tr>
<tr>
<td>Surify</td>
<td>US</td>
<td>Uses Fitbits, gamification and Surify app to increase customer engagement and lead to potential discounts.</td>
</tr>
<tr>
<td>Tokio Marine Nichido</td>
<td>Japan</td>
<td>In an alliance with NTT Docomo to distribute &quot;one-time insurance&quot; for auto, travel, golf, sports &amp; leisure in Japan</td>
</tr>
<tr>
<td>TongJuBao</td>
<td>China</td>
<td>Peer-to-peer company for group members to protect each other from social risks such as divorce or career disruption.</td>
</tr>
<tr>
<td>Company</td>
<td>Country</td>
<td>Short Description</td>
</tr>
<tr>
<td>-------------</td>
<td>----------</td>
<td>------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>TROV</td>
<td>US</td>
<td>Mobile app that started out as a &quot;digital locker&quot; but is moving into micro-duration property insurance coverage.</td>
</tr>
<tr>
<td>Union Life</td>
<td>China</td>
<td>Building retirement communities and offering policies with a guaranteed place to live in one of the facilities.</td>
</tr>
<tr>
<td>UpGuard</td>
<td>US</td>
<td>UpGuard's CSTAR score determines the insurability of companies' IT assets based on security vulnerability.</td>
</tr>
<tr>
<td>USAA</td>
<td>US</td>
<td>USAA has received a patent for a system to offer drivers different insurance rates based on the route they choose to drive.</td>
</tr>
<tr>
<td>Zurich</td>
<td>Switzerland</td>
<td>Financial security if the wedding celebration needs to be canceled</td>
</tr>
</tbody>
</table>

Insurance Industry Implications — Disruption and Opportunity

While the fundamental need for risk management has not changed since the time of the Hammurabi Code, the focus has shifted as a result of the converging factors of people, technology and market boundaries. These converging factors have connected the world far better than anything we have experienced at any other time in history, even beyond what we experienced in the past 5 to 10 years. As a result, insurance products from previous decades are challenged to remain relevant in a fast-paced shifting market as reflected in the following:

- Personal auto and term life have essentially achieved commodity status, highlighted by the increased online, direct, and comparison options.
- US individual life insurance ownership dropped from 59% in 1960 to 36% in 2010, representing the lowest level in 50 years\(^{iii}\)
- Nearly 80% of households do not have a life insurance agent to help\(^{liv}\)
- Changing auto ownership and use behaviors (i.e. shared transportation)
- Impact of autonomous and driverless vehicles in auto premiums
- Impact of medical advancements and technologies that lengthen and improve lives
- Increase in employee benefits coverages as primary insurance coverage
- Shift from providing a risk coverage product to providing real-time risk management services to eliminate or avoid risk

The disruption and opportunity of the converging trends of people, technology and market boundaries and the specific factors within each trend individually are significant, but when converged, their impact is seismic and game-changing. The impact is a disruption of insurance in varying degrees by redefining or reducing risk, redefining insurance needs, creating new product and service needs, and impacting traditional revenue, pricing, and operational and profitability models. Even more importantly, these influencers are reshaping and redefining customer expectations and engagement while demanding new experiences to create, retain, and grow customer relationships and loyalty.

Sustainable long-term success for insurers in the digital age requires leveraging technology, data, consumer expectations and creative business model thinking to make the core insurance product simpler, integrated into other products or businesses, and to provide ease of access through any or all channels.
So how is the market responding? Companies, both within and outside the insurance industry are taking one or more of these approaches:

- **On-Demand**: Letting customers decide what specific item(s) to cover, when, and for how long improves simplicity and gives control to the customer, based on their needs.
- **Peer/Group**: Letting people form their own risk groups to leverage buying power and share costs and rewards can increase trust and familiarity, something that many people find lacking as individual insurance customers.
- **Embed with other businesses**: Because insurance is often purchased in conjunction with life events or purchases of other products, there is the opportunity to include the purchase of insurance within other business models or include it in the price of the other asset (like Volvo has for liability) which simplifies the process.
- **Risk prevention**: Avoiding accidents and damage is far simpler and satisfying than recovery, repair and re-building, no matter how good a claims experience is. New services driven by technologies like mobile devices, IoT, telematics, gamification and autonomous vehicles make this more feasible than ever before.
- **Expanding channels**: Increasing customer access to insurance coverage and a redefined customer experience through multiple, integrated channels.
- **New business models**: New models are rapidly being created and incubated that incorporate new business assumptions, customer engagement models, new products and services and operational processes that meet the changing needs, preferences and risk profiles of consumers.

Diagram G on the next page summarizes many of these changes for the insurance industry.
Diagram G: Shifts in the insurance industry

<table>
<thead>
<tr>
<th>Business Model</th>
<th>Industrial Age 1920-1960</th>
<th>Information Age 1961-2008</th>
<th>Digital Age 2009 -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk products based on personal data provided with aggregate parameters / underwriting using historical data; Product and Distribution centric; Limited Transaction oriented</td>
<td>Risk products using 3rd party data with personalized parameters / underwriting using historical and predictive data; Product and distribution centric; transaction based, multi-distribution, risk pricing</td>
<td>Value added services and risk products, Customer-centric, event based, omni-channel distribution, risk prevention,</td>
<td></td>
</tr>
<tr>
<td>Distribution Channel</td>
<td>Agent (primarily captive)</td>
<td>Emergence of independent agents / brokers, financial advisors, banks, worksite, direct mail, telemarketing, online D2C, affinity partnerships</td>
<td>Comparison sites, aggregators, blurring industry borders; insurance integrated with other products</td>
</tr>
<tr>
<td>Customer Interaction</td>
<td>In-person, mail, phone with Agent as primary</td>
<td>Multi-channel with Agent as primary</td>
<td>Digital/mobile, omni-channel</td>
</tr>
<tr>
<td>Product</td>
<td>Basic (vehicle, property, life); Emergence of business products</td>
<td>Increasingly complex, broad coverage</td>
<td>Simple, niche/micro-coverage, mileage based, on-demand, short duration, risk prevention</td>
</tr>
<tr>
<td>Risk Management Focus</td>
<td>Recovery, indemnification, focus on claims pay out</td>
<td>Recovery, indemnification, focus on claims pay out and service for retention</td>
<td>Prevention and elimination focus with claims payout becoming secondary; New services (for revenue gen) that drive prevention and elimination of risk</td>
</tr>
<tr>
<td>Partnerships</td>
<td>Few if any</td>
<td>Growing partners for data, add-on capabilities, repair networks, BPO/ITO</td>
<td>Robust partner ecosystem for traditional insurance and expanded to new services and value add for customer centric models</td>
</tr>
</tbody>
</table>
However, the convergence of these significant changes in people, technology and data and market boundaries is putting tremendous pressure on the industry to respond, particularly for those with legacy systems. Insurance companies need to move beyond simply monitoring the seismic changes in People, Technology and Market Boundaries to actively determining how their own futures will look. To proactively prepare and respond, insurance companies must adroitly do two things simultaneously:

1. **Modernize and optimize the current business and core systems,**
2. **While reinventing the business for the future with a focus on agility, innovation and speed. These three characteristics are mandatory in world of continuous disruption and opportunity.**

Change and disruption are here, unfolding a new business landscape. There is no clear path or destination, only a world of opportunities. But the time for plans, preparation, and execution is now. It’s like the old adage of changing the tire on a car while you’re driving at full speed down the freeway. Those that can do this will transcend merely surviving in an increasingly competitive industry to become the new leaders of a re-imagined insurance business.

How you respond is strategically important for your companies’ future relevance and competitiveness as the digital revolution unfolds. Today’s disruptions are tomorrow’s opportunities. Embrace today for a future tomorrow!
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About the Authors

Denise Garth is Senior Vice President Strategic Marketing responsible for leading marketing, industry relations and innovation in support of Majesco’s client centric strategy, working closely with Majesco customers, partners and the industry.

She is a recognized industry leader with both P&C and L&A insurance experience as a CIO and business executive with deep international ties in Asia and Europe through her ACORD leadership role. Denise is an acknowledged strategic thinker, innovation leader, international speaker, and author of thought leadership and articles regarding the key issues and opportunities facing the industry today to prepare for the future.

Glenn Westlake is Manager of Market Research and Content Management at Majesco. He is responsible for supporting Majesco’s client-centric strategy by bringing information and insights to Majesco customers about consumer behaviors and marketplace trends, and their implications for insurance. He has 16 years of experience in market research and insurance, with 13 years serving as the Director of Consumer Research at American Family Insurance in Madison, WI.