

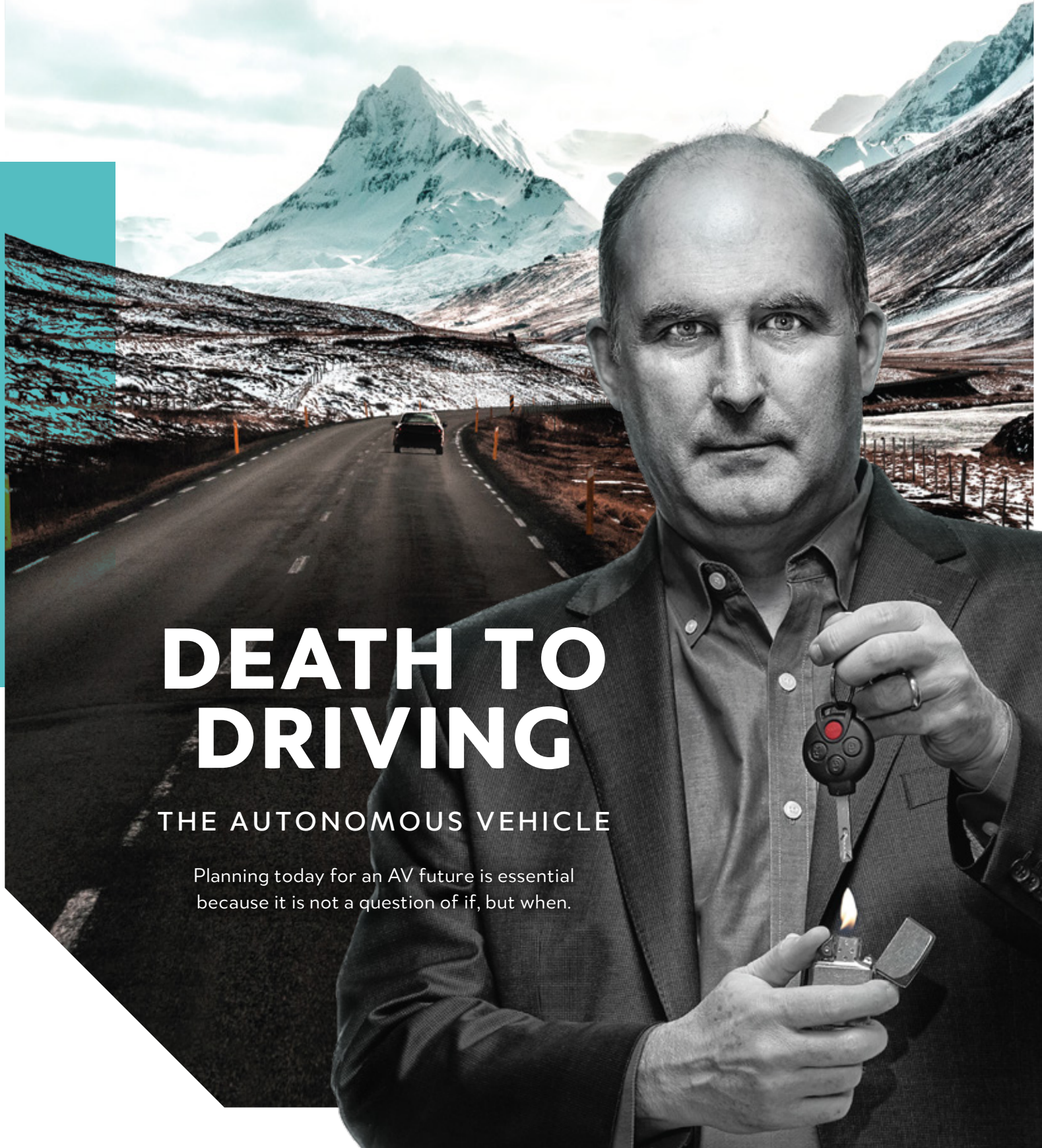
DISRUPTION

APRIL / 2018 / ISSUE #01

DEATH TO DRIVING

THE AUTONOMOUS VEHICLE

Planning today for an AV future is essential
because it is not a question of if, but when.





STAGGERING 94% OF CAR ACCIDENTS ARE DUE TO DRIVER ERROR. So think about the 40,000 lives that will be saved in North America every year in 2025 when all new cars are autonomous (self-driving) vehicles.

Think of the 2.5 million people who won't be maimed or seriously injured annually. Think of the emotional trauma that families will be spared. That's the GREAT news. There's also \$190 billion of savings in health care costs, the value of lost wages and government benefits. (Globally 1.3 million lives will be saved every year and up to 50 million people will be spared serious injuries).

THE BAD NEWS: The bad news is that, if you're an insurance agent selling auto insurance, you'll witness the evaporation of the \$500 billion a year global auto insurance market.

Driverless vehicles have a profound and cascading impact for other organizations and industries as well.

What's the implication for hospital emergency rooms and ambulances? When 2.5 million injured people aren't rushed every year to hospitals in

or watching a movie, or writing a work report, or Skyping with your grandchildren. Radio use will decline when we have fully autonomous vehicles unless it ups its game to add more value for listeners.

And when you arrive at work you won't need to park your car – instead you'll tell it to go forth and earn its keep – as part of Uber or Lyft's autonomous vehicle pool. Not only will you be saving \$40 a day (if you work, for example, in the downtown financial core); you will also be making money from your car while you work.

Shortly before you want to head back home, you'll signal to your car to stop taking fares and come back to pick you up.

When demand for downtown parking drops dramatically, what happens to the value of parking lots in urban downtowns where a permanent spot used to sell for as much as \$100,000?!

Autonomous fleets mean that the US has a staggering excess 61 billion square feet of unnecessary parking spaces, according to management consulting firm McKinsey.

Needing fewer parking lots will also have a cascading implication for paving companies that primarily pave parking lots. If such a paving company doesn't change its focus it will face an inevitable decline.

And think about the impact on municipalities – last year the city of Toronto made \$153 million from parking fees – and that doesn't even include parking ticket revenue. What are the implication for municipal finance? (New York City collects \$2 billion a year in parking fines.)

For that matter, what will replace the \$14.6 billion in gas taxes, as society moves to electric vehicles?

// THIS VIDEO WILL SHOCK YOU

My favourite video about autonomous cars is a clip from the dash cam in a Tesla on a highway in Scandinavia. The autonomous system sets off an audible alarm (at this point I can't see anything wrong with the situation) and then, two seconds later, one car hits another with such force that the car that's been hit begins doing summersaults on the road. [On YouTube search for "Tesla Autopilot predicts an accident caught on dashcam a second later"]. This clip makes the vivid benefit of autonomous systems crystal clear.

Further, what does the value of used car dealerships fall to when no one wants to buy a used car that doesn't have an autonomous system? After all, what's the value to you of your spouse and children's lives and well being? If you own used car dealerships, now might be a good time to sell or re-think your value proposition – is there some

IN TORONTO, SIX BILLION DOLLARS (\$C) OF TIME IS WASTED EVERY YEAR BY DRIVERS CAUGHT IN TRAFFIC. WHAT IF WE COULD USE THAT TIME MORE PRODUCTIVELY? IN SEVEN YEARS TIME YOUR AUTONOMOUS CAR WILL DRIVE YOU TO WORK.

North America, do we have an overcapacity of ambulances? Is this bad news for ambulance makers?

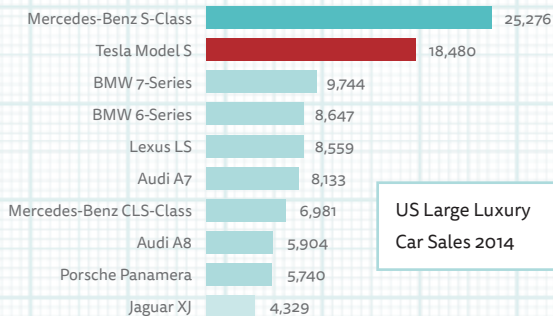
And what about emergency room capacity? Taking more than 2.5 million people out of ERs every year is a LOT. If you're building a new hospital maybe you should design the ER to be flexible and able to contract when demand drops in 2025.

In Canada reduced deaths and injuries will benefit taxpayers because we have a publicly funded health care system, but in the US where for profit HMOs operate, reducing medical costs by up to \$190 billion a year will have a significant impact.

// COMMUTING TRANSFORMED

In Toronto, six billion dollars (\$C) of time is wasted every year by drivers caught in traffic. What if we could use that time more productively? In seven years time your autonomous car will drive you to work. What are the implications for radio stations? We listen to radio when we're driving now because we have to keep our eyes on the road. But with a self driving car you'll be in the back seat sleeping,

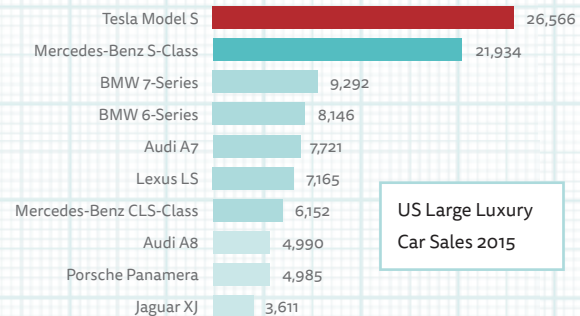
In 2014 Mercedes Benz dominated the US large car luxury market:



US Large Luxury
Car Sales 2014

Source <https://evobsession.com/top-large-luxury-cars-usa-2014-sales/>

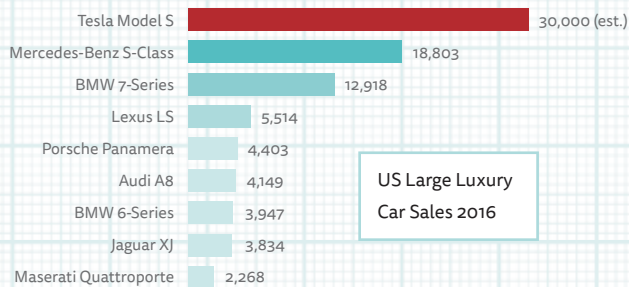
But by 2015 Tesla surpassed Mercedes Benz sales had fallen and Tesla led:



US Large Luxury
Car Sales 2015

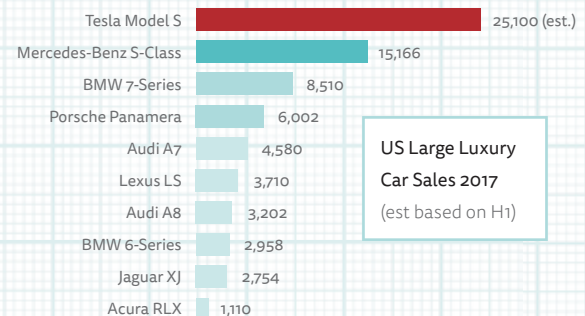
Source <https://evobsession.com/tesla-model-s-1-in-large-luxury-car-market-in-us-in-2015/>

In 2016 Tesla's sales acceleration was even more pronounced:



US Large Luxury
Car Sales 2016

In 2017 Tesla Model S sales have been declining with rising Tesla Model X sales which are listed in the SUV category. Despite this the Tesla Model S still dominated the large luxury car sales:



US Large Luxury
Car Sales 2017
(est based on H1)

device that you can buy to retrofit older vehicles with to give them some autonomous features or accident prevention features that newer cars come with?

I was recently working with an executive who happens to own 16 car lots. He was arguing that electric vehicles and autonomous systems are less than 1% of the market and therefore irrelevant. Jarring new information that threatens our world view and our current business model is rejected by most people.

In the early 2000s Lexus represented less than 3% of Toyota's unit sales, but in some years it was responsible for up to 50% of Toyota's US profits! In other words – the luxury car market represents a disproportionately large share of car companies' profits.

So can you hear the huge sucking sound as Tesla strips profitability from the auto industry?! Realizing this, can you now comfortably say that Tesla

with less than 1% of auto sales in North America is irrelevant?

The normal margin on traditional cars sold through a car dealership is 4% to 5%. Tesla by contrast doesn't sell through dealerships. In cities it will have a test driving center or two, where you can custom order your Tesla. By cutting out the dealer, Tesla's margin is 25%. Tesla's direct to consumer distribution model cuts cost and increases profit.

For traditional auto makers, the majority of profit is in ongoing service. But with Tesla there is next to no service required. No oil changes. No engine wear. You will still, of course, have to change your tires every 80,000 kilometers.

In 2017 General Motors (GM) sold 10 million vehicles and as of March 2018 the company was worth \$US49 billion. By contrast Tesla sold 100,000 cars in 2017 and on March it was valued at \$US51 billion. That means that GM is being valued at \$4,900



If you don't think the shift to autonomous vehicles (AVs) and electric vehicles (EVs) can happen quickly, here's a photo of the streets of New York City in 1900 and you can't see a single car.

Source: <https://viewing.nyc/vintage-photograph-from-1900-shows-fifth-avenue-bustling-on-easter-morning/>



Just a decade later you can't see a single horse on New York Streets.

Source: https://commons.wikimedia.org/wiki/File:Ave_5_NY_2_fl.bus.jpg

for each car it sells, while Tesla is being valued at \$510,000 for every vehicle it sells.

When Elon Musk launched the Tesla Model 3 in March 2016 a staggering 275,000 people pre-ordered the car in the first four days, making it the most successful car launch in the world's history. The pre orders have since climbed to more than 500,000 – making it a \$20 billion car launch! This \$20 billion car launch was a two by four to the heads of traditional car company executives to get serious about electric vehicles. The problem? Their development process takes eight years, meanwhile Tesla received 1,800 new orders every day for the Model 3.

Car makers are one of the largest advertisers in newspapers. What happens to newspapers as car company profitability collapses?

And if there are 80-90% fewer accidents on roads, what happens to the almost \$200 billion auto body industry?

// SHARING ECONOMY

Here's a staggering fact: the average car in North America is used less than 4% of the time and only at 20% capacity. For the average family the car is the second largest purchase. This makes the auto industry ripe for disruption.

It's cheaper in Toronto to take Uber or Lyft than to own a car. The Canadian Automobile Association notes that the average cost to own a car is \$11,900 a year. But that's the average. If you're a young testosterone-ridden male aged 16-24, insurance alone can set you back \$5,000 a year.

And which would you rather have: Fighting to

find parking spaces? Changing oil? Switching from winter to summer tires and back again? Or be treated like the President of any small republic – where a car pulls up, you get in. The driver takes you to where you want to go and you get out? As a result many millennials aren't even bothering to get their drivers licence. Driving is so 2016.

When I am working with an audience I will ask how many people have taken an Uber or Lyft. I will then ask them what wowed them the first time they took a Lyft or Uber?

- I knew when the car was going to arrive
- I knew the price of the trip before I agreed
- I knew how long the trip would take.
- I could see the route
- I didn't have to pay when I arrived
- I could rate the driver
- The car was clean.
- I knew the name of the driver

I could call him once it said he had arrived but he wasn't at the front of the hotel

I could conduct this exercise of 20 minutes facilitating out a hundred points. A powerful insight is that these are all speaking to the user experience (UX) and to the customer being in control. With taxis its exactly the opposite.

That's why Uber is worth more than every taxi cab company in North America added together. And yet Uber doesn't own a single car! To me this highlights some critical points for executives: your business model, processes and UX are more important than your product.

In 2007 a taxi license plate in Toronto was worth \$400,000. Recently they have traded as low as

➡ **WHILE PRODUCT INNOVATION GETS 75% OF THE FOCUS, IT ONLY YIELDS 10-15% OF THE VALUE OF INNOVATION. THE OTHER 90% IS IN BUSINESS MODEL INNOVATION, PROCESS INNOVATION AND USER EXPERIENCE INNOVATION.**

\$50,000. That's almost a 90% reduction in value.

Once we have autonomous cars, we will have autonomous Lyft and autonomous Uber to access. In an urban centre one autonomous vehicle working in a pooled capacity can replace up to 30 traditionally owned cars. This will spell the end of many auto makers.

If I can get a car anywhere any time via Lyft or Uber, what happens to the \$28.6 billion a year car US car rental industry?

// INNOVATION

When you ask people on the street, "What's innovative?"

They will often answer the iPhone is innovative. A staggering 75% of the answers will be about a product. Similarly within organizations product innovation received 75% of the focus.

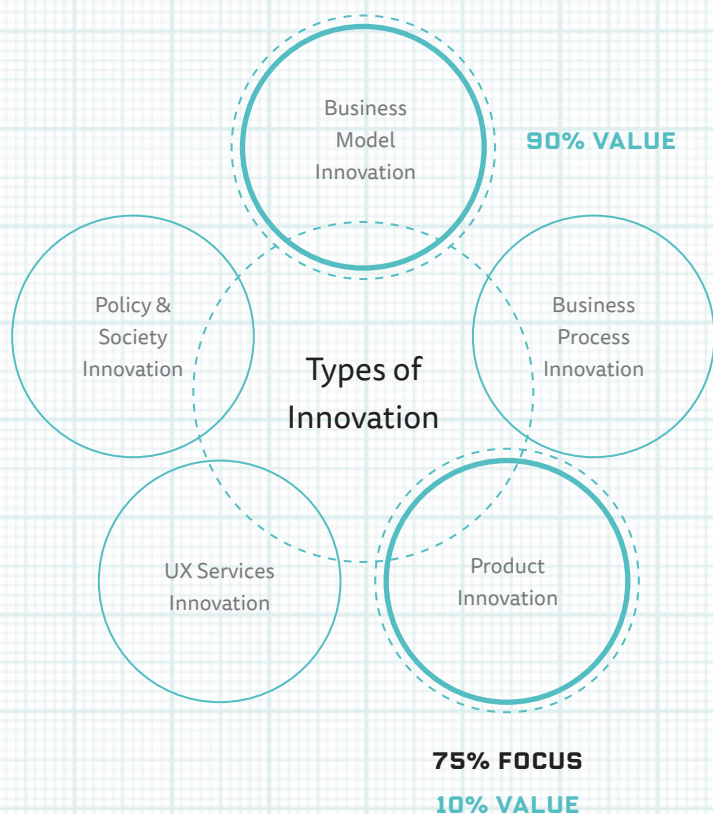
While product innovation gets 75% of the focus, it only yields 10-15% of the value of innovation. The other 90% is in business model innovation, process innovation and user experience innovation.

// LOBLAWS & TESLA SEMIS

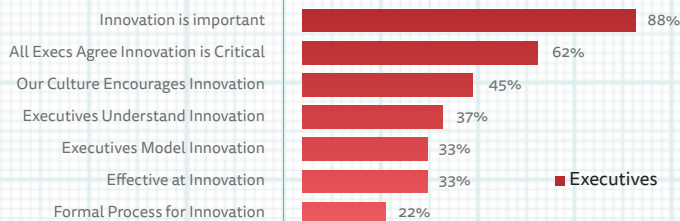
And it's not just autonomous cars that will disrupt industries, it's also autonomous trucks. In November 2017, Tesla announced its Semi. The Tesla Semi has a 475 kilometer range (there's an 800 km range version too). The truck costs \$US190,000 and will save \$US200,000 in fuel costs over 1.6 million kilometers. For trucking operations it will save more than the capital cost in fuel savings! Loblaw's, the largest grocery retailer in Canada has already ordered 25 Tesla Semis. These 25 trucks will save Loblaw's \$C6,400,000 over 1.6 million kilometers.

Grocery retailing works on 1% net profit. So for every dollar of sales, grocers typically only make one cent. The \$6.4 million that the Tesla Semis will save Loblaw's has the same bottom line impact as the company increasing its sales by \$640,000,000! Even for the largest retailer in the country driving two-thirds of a billion dollars of additional sales is challenging!

Tesla Semis will have a profound impact on trucking industry. In the US there are 3.1 million truck driving jobs. What will happen to them?



Saying Innovation Is Important, But **Not Doing!**



Source: Leger Marketing Research & Globe and Mail

// DRIVING INNOVATION

"Innovation is essential," say 88% of CEOs to the top and bottom line, according to a Globe and Mail and Leger study. Not surprising. But what is shocking is that only 22% admit to having a formal system of innovation. Imagine that CEOs took the same approach to sales? Yes, 88% say sales are essential but only 22% have sales people, a sales process, sales training, sales systems like a CRM. The other roughly 80% of Canadian company CEOs hope that sales will just magically, organically happen.

// CONCLUSION

In North America our cities, society in general, and our way of living is built around the automobile. The cascading impacts of autonomous vehicles will be profound. We've explored how one disruptive innovation – autonomous vehicles – has huge cascading implications for insurance, health care costs, emergency room capacity, ambulance makers, car dealerships, auto makers, parking lot owners, paving companies, radio stations, newspaper advertising revenue, cab companies, municipal, provincial and federal revenue, city planners, car rental companies, architects designing hospitals – and in turn all of these have implications for investors.

Before you get too stressed about all the change, remember that 150 years ago, 80% of jobs were in agriculture. Today it's less than three per cent – and yet we still have almost full employment despite farm mechanization. And so it is with these disruptions. What is certain is that jobs will have to change, organization will have to change, business models will have to change. How good is your organization at change?

Imagine the impacts of other trends – such as artificial intelligence (AI), the Internet of Things (IoT), 5G wireless and Moore's Law – all compounding one another – amplifying the impact of disruption on companies, industries and society as a whole. Executives must spend more time focusing

on the future – focusing on disruptive innovation and its impact on their business model, customers and profitability. Google has spent \$1.1 billion on autonomous vehicle research so far. If it wins even a one per cent share of the \$10 trillion a year transportation market that will seem like a pittance. ■

Jim Harris // Disruptive Innovation Speaker

Jim Harris is the author of *Blindsided* which focuses on disruptive innovation. It is published in 80 countries worldwide and is a #1 international bestseller. He speaks internationally at more than 50 conferences and seminars a year. Subscribe to this YouTube channel at <http://bit.ly/2lFJB5F>. You can follow him on Twitter @JimHarris or email him at jim@jimharris.com





Becoming an Agent of Disruption What makes someone a disruptor?

Disruptive innovation is a hot topic these days. What exactly is it? Why is it happening? What's driving this phenomenon so relentlessly? How is it that some people, and initiatives disrupt entire industries while other efforts fall flat?

BY JIM HARRIS

This article first appeared in Disruption Magazine.

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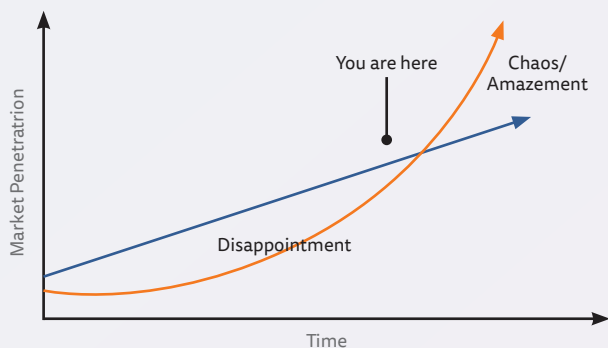
e are living in times of exponential change. Most people have heard of Moore's Law – the doubling of processor power every 18 months while staying at the same price point. In 1970 there were 2,000 transistors on a CPU (Central Processing Unit) – or computer chip. Today there are 20,000,000,000.

A gigaflop is a measure of computer speed – it's a billion transactions per second. In 1961, one gigaflop cost \$153 billion; in 2018 a gigaflop cost two cents. That means that today computing is 1) free and 2) is happening at the edge. In other words my \$1,000 smartphone has more raw computing power than IBM's Deep Blue which was a \$100 million project in 1997 that beat Gary Kasparov in chess. And I carry it around in my hip pocket at all times.

Moore's Law is just one law that is exponentially improving in price performance. There are dozens more. And when these technologies intersect and compound one another – 1) things that were once impossible become possible; and 2) industries can get blindsided. Alexa, Siri, and Google Home all became possible because of voice recognition, voice to text, artificial intelligence (AI), and cloud computing. The exponential price performance improvements of all these technologies combined enabled this.

Star Trek fans will remember Universal Real Time Translation (URTT). Well, now it's a reality. The Google Translate App for smartphones will translate English into 100 different languages – and vice versa – in real time as long as you have access to the web.

CHARACTERISTICS OF A DISRUPTOR: EXPONENTIAL CHANGE AND TRAJECTORY



CHARACTERISTICS OF A DISRUPTOR

The most important characteristic of a disruptor is understanding exponential change and its trajectory. Most large, traditional incumbent organizations follow the trajectory of the blue line. Incremental top line growth every year.

The orange line represents an exponentially improving price performance of a technology and the growth of the company that is built on it. Both the technology and the company stay below the radar for a very long time. And by the time the incumbent organization can perceive the threat it's too late – the new company explodes onto the scene. At the time the orange line crosses over the blue, there is chaos and amazement.

KEY TECHNOLOGY COST PLUMMETING

Drones



Cost per unit

2007 **\$100,000**
2013 **\$700**

3D Printing



Cost averages for equivalent functionality

2007 **\$40,000**
2014 **\$100**

Industrial Robots



Cost per unit

2007 **\$550,000**
2014 **\$20,000**

DNA Sequencing



Cost per unit

2000 **\$2.7BILLION**
2007 **\$10MILLION**
2014 **\$1,000**

Smartphones



Cost of model with similar specifications

2007 **\$499**
2015 **\$10**

For instance, Elon Musk of Tesla understands the relentless price performance improvement of Lithium Ion batteries for electric cars. Here's how the costs have declined: (the pink box highlights how the price of 2016 moves from the end of one graph to the start of the next) Figure 2 and figure 3 analysis are from Bloomberg New Energy Finance (BNEF):

Despite a decade of dramatic price declines, even in 2016 the largest cost of an electric car (48%) was the battery. BNEF predicts that Li-ION battery prices will continue to fall in cost to a point in 2025 where electric vehicles (EVs) become cheaper than the average gas car price in America.

But at the Tesla shareholders meeting in 2018, Elon Musk pointed out that with Tesla's Giga factory in Nevada producing battery cells and packs, that the price

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performance would hit \$100 per kWh at the cell level by 2019 and at the battery pack level in 2020. That would mean that EVs would be cheaper than traditional gas cars in 2020 (figure 4).

In the mid 2000s Musk looked out into the future and anticipated that by 2020 to 2025 the improving price performance of battery technology would mean that electric cars would become cheaper than gas powered

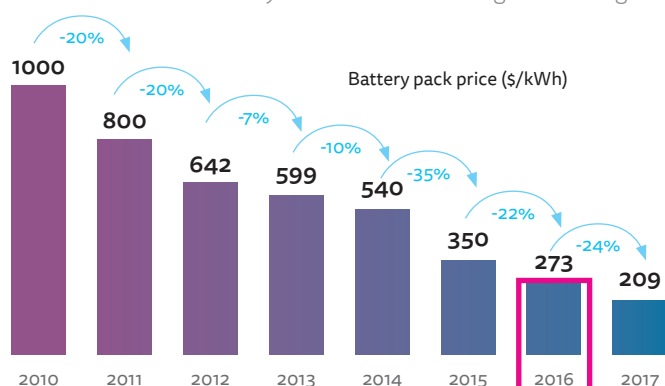
cars. Then he spent a decade building Tesla, because it takes time to build a company – the people, the technology, the infrastructure, the capital, the partners – to a point where it can rapidly scale.

Here are some key characteristics of disruptors. They: 1) deeply understand exponentially improving price performance of technologies;

2) are relentlessly curious, life-long learners. They read widely, and consult broadly with experts from across a range of disciplines. They regularly attend events like TED, Ideacity, SXSW, SingularityU – conferences outside their areas of focus.

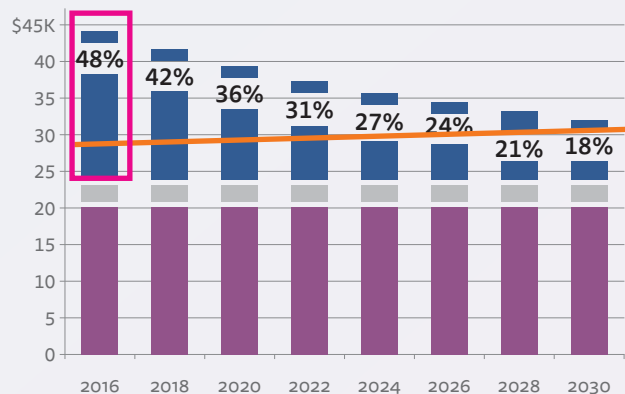
3) build an organization that's driven by a massive transformative purpose. Tesla's mission is to accelerate the world's transition to sustainable energy. That's a powerful motivating clarion call for change with employees and customers.

FIGURE 2: BNEF lithium-ion battery price survey results - volume-weighted average



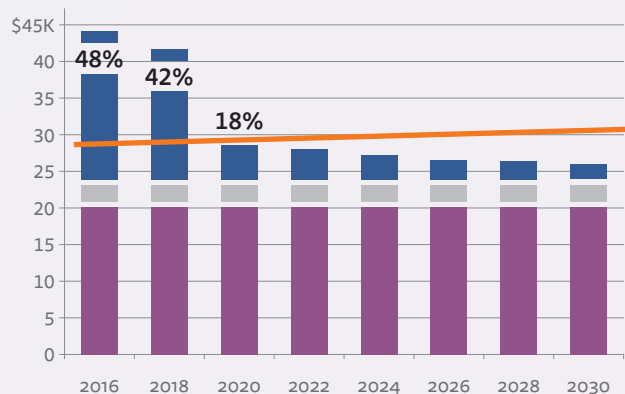
ELECTRIC CARS WILL WIN ON PRICE (FIG. 3)

Falling battery prices undercut gasoline cars by mid-2020s



ELECTRIC CARS WILL WIN ON PRICE (FIG. 4)

Falling battery prices undercut gasoline cars by 2020



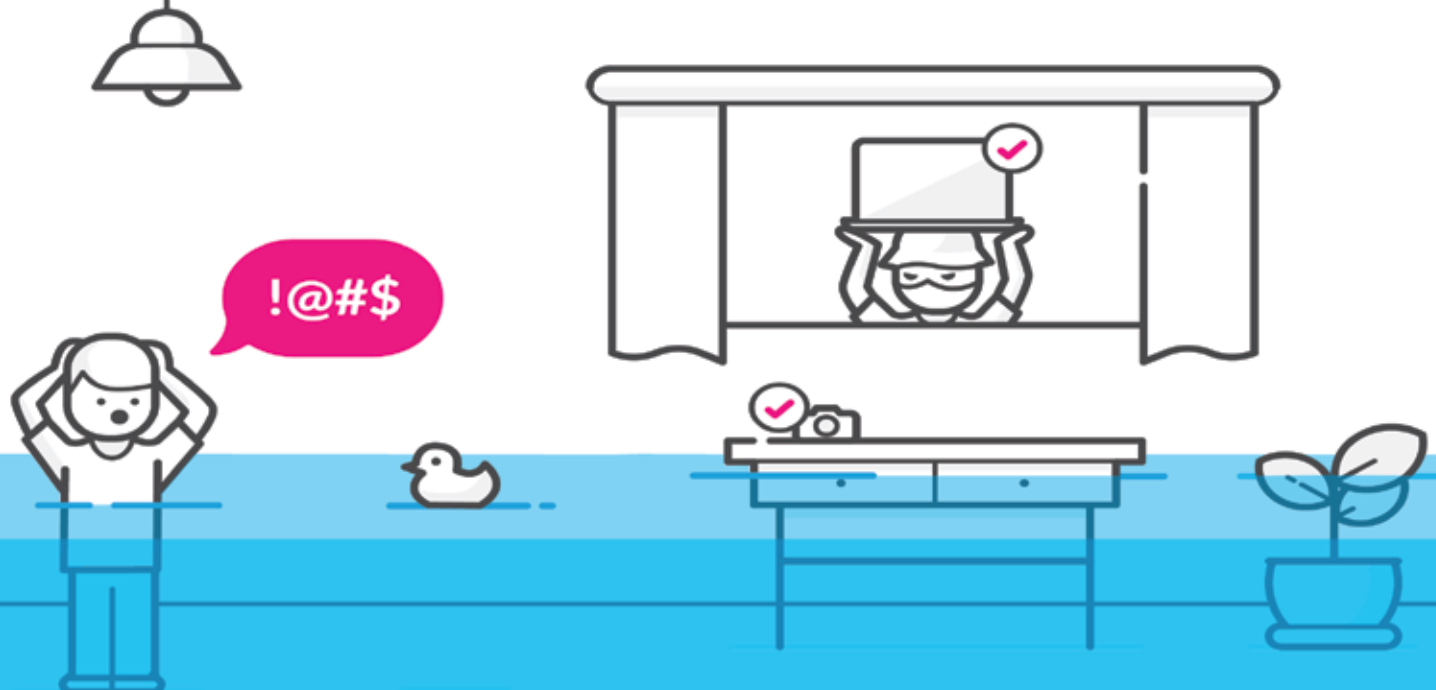
Gasoline car Electric car costs: Battery Powertrain Vehicle

THE LEMONADE LOCK-IN

How AI is
disrupting
the insurance
market

By Jim Harris [Click here to book Jim](#)

Lemonade is disrupting traditional insurers in an industry that takes weeks, or even months, to settle most property and casualty insurance claims. A New York-based insurer, Lemonade set the world record in December 2016 for settling a claim in just three seconds by using its claims bot powered by artificial intelligence (AI) running 18 fraud algorithms. The customer, Brandon Pham, clicked the “submit” button for a \$979 claim for a stolen Canada Goose Parka. Just seconds later, the claims bot texted him that his claim was approved and payment instructions had been sent to the bank.



Lemonade is revolutionizing the sleepy insurance industry. As of June 2017, 27 percent of Lemonade's claims have been settled instantly by its AI claims bot. The company's long-term goal is to settle 90 percent of claims instantly.

The claims bot is called Jim and was morphed from the real Jim Hagerman, who is Lemonade's Chief Claims Officer (CCO), and was formerly CCO of a large insurance firm. The Lemonade team spent months moving the decision process from traditional claims procedures and automating it using algorithms based, in large part, on Jim's knowledge. The AI works to understand the nature of a claim, its severity and its urgency. It also assesses the likelihood of a fraudulent claim. If a claim is too complex, AI Jim refers it to the real Jim.

However, Lemonade AI is still learning. In an industry where expense ratios average 28 percent, this offers huge savings. Lemonade's founders didn't come from the insurance world. They are technologists who have built the company on artificial intelligence, algorithms and technology. Customers can only apply for a policy using a smartphone and receive approval in as little as 90 seconds.

By eliminating bureaucracy and digitizing the experience, Lemonade cut the cost of customer acquisition by 90 percent compared to traditional insurers. In part, this is what allows it to issue a tenant policy for 68 percent cheaper than the four largest traditional insurers.

HOW CAN THIS BE?

One answer is that while it costs traditional insurers \$792 to acquire a new customer, insurance firms with independent agents spend up to \$900 to write an initial home insurance policy. Lemonade issues tenant policies for as little as \$5 a month — or \$60 a year. No traditional insurers — with paper-based, time-intensive bureaucratic processes — have bothered with small tenants policies because their cost structure prohibits it.

Price is the key determinant for most customers in deciding which insurance company to buy from, notes Bain & Company's Customer Loyalty Study. This gives Lemonade a huge advantage.

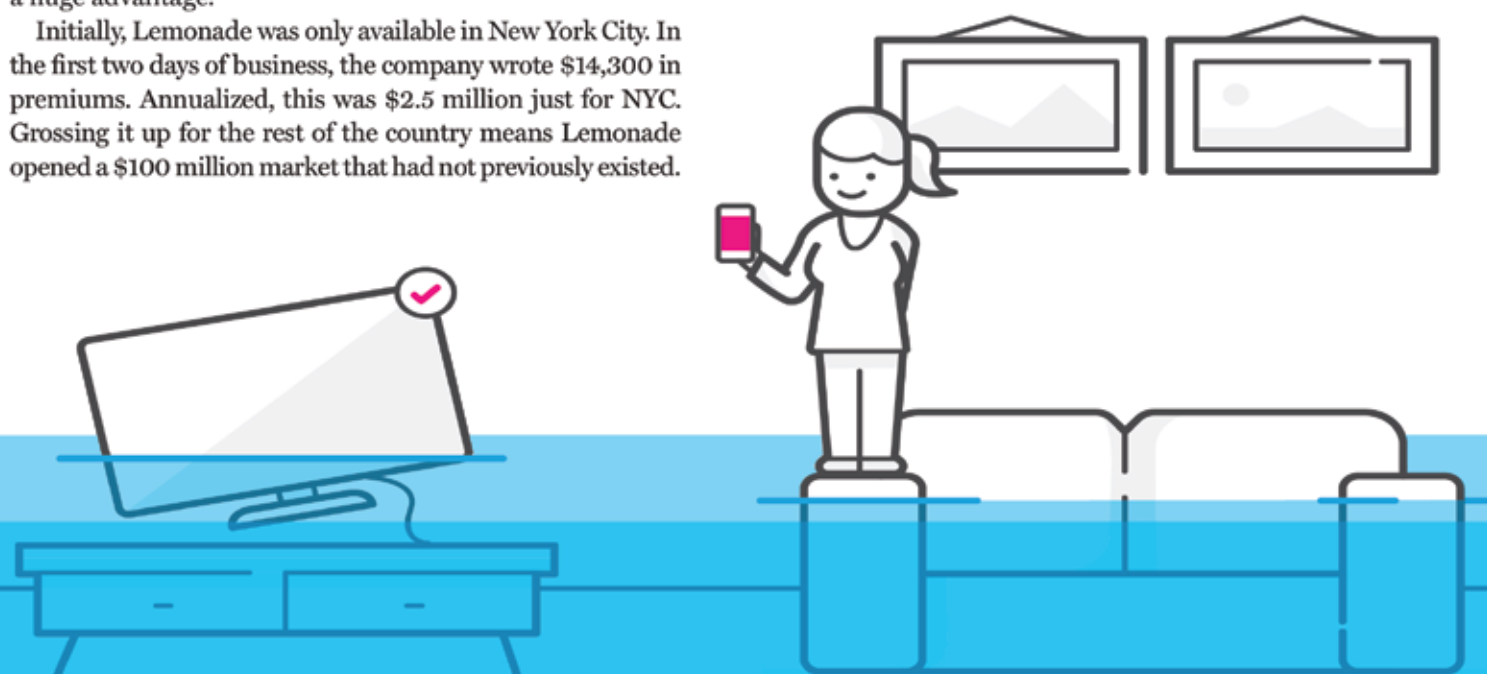
Initially, Lemonade was only available in New York City. In the first two days of business, the company wrote \$14,300 in premiums. Annualized, this was \$2.5 million just for NYC. Grossing it up for the rest of the country means Lemonade opened a \$100 million market that had not previously existed.

In those first 48 hours, the average renter's policy gross premium sold was \$86 a year, condos \$528 and homeowners \$691. Today, Lemonade's average homeowner's policy is roughly double the average at launch. This should frighten traditional home insurers.

By the end of 2016, tenants' packages represented 90 percent of Lemonade's policies issued — but only 53 percent of the company's premium revenue. By contrast, homeowners make up only 10 percent of policies but account for 47 percent of premiums. In other words, homeowner policies provide Lemonade with nine times more premium dollars than renter's policies, which is another reason traditional insurance firms have ignored tenants insurance. Given that 110 million Americans are renters (30 percent of the U.S. population), Lemonade has a long runway for growth. Seventy percent of these renters are under 35 years old — a target group that has historically not purchased insurance.

In fact, a staggering 87 percent of Lemonade customers have never bought insurance before. So in one sense Lemonade is not disrupting traditional insurance companies, but has created a new market that did not exist because it was prohibitively expensive for incumbent insurers to serve.

However, in another sense, Lemonade is highly disruptive, although traditional insurance companies may not have realized it yet. Lemonade is acquiring the best possible customers — ones with great credit, great jobs and a desire for insurance — five years before any traditional insurer could consider them as clients, says Lemonade Co-Founder Daniel Schreiber.



Mobile Sales On the Rise

Consumer spending via mobile will increase from \$204b in 2014 to \$626b in 2018. Almost half of all e-commerce sales will be from m-commerce.



SOURCE: Ernst & Young



Daniel Schreiber, Co-Founder and CEO (left), and Shai Wininger, Lemonade Co-Founder and President (right).

Traditional insurers will realize Lemonade is highly disruptive in five years when they discover waves of first-time home buyers, who already bought Lemonade's tenant insurance policy and likely will buy homeowners policies from them as well. It's the Lemonade lock-in.

As of June 1, 2017 Lemonade is active in three states — California, Illinois and New York — representing 22 percent of the U.S. population. But the company is now licensed in an additional seven states — Arizona, Michigan, New Jersey, North Carolina, Rhode Island, Texas and Virginia — representing another 26 percent of the U.S. population. Once Lemonade is actively selling in these seven new states it will be serving 48 percent of the U.S. population — very close to achieving the corporate goal of offering insurance to the majority of Americans by the end of 2017.

As of June 1 the company had sold 14,315 policies and the average policy size is growing. This means that Lemonade is moving up in the market, selling higher premium homeowner policies.

In the most recent period for which the company disclosed sales, it sold 4,300 policies in 20 days in New York, Illinois and California. Annualized this is a run rate of 78,500 policies a year. When Lemonade

begins operations in the next seven states that it's become licensed to operate in, it will be selling 160,000 new policies a year if the run rate holds constant.

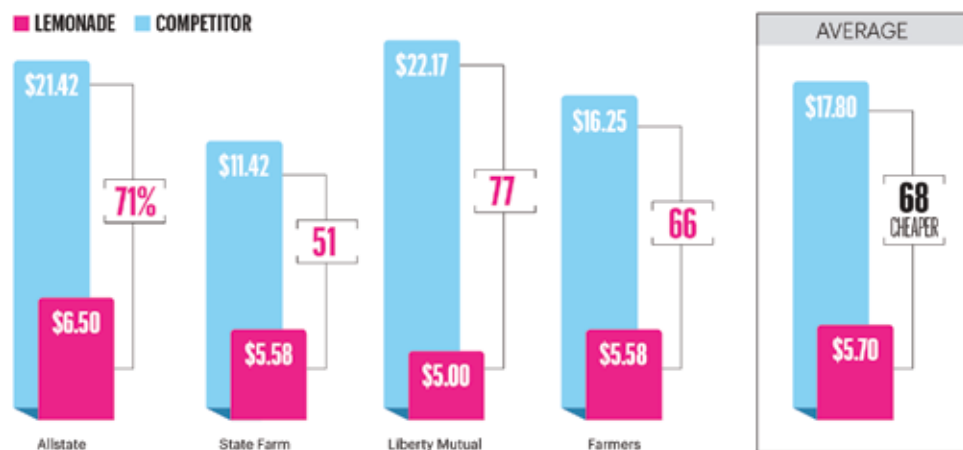
Lemonade wrote \$179,855 of insurance in the first 100 days to December 30, 2016. Extrapolating this to Lemonade's sale of 14,315 policies by May 31, 2017, means that the company sold more than \$2.1 million in premiums. (The company won't release any figures beyond what it has already published on its blog and transparency chronicles. But as the average policy has been growing due to the average homeowner's policy size growing significantly, this figure is conservative.)

Lemonade is on an exponential growth trajectory, more than doubling the number

The Cost Advantage

In the insurance race, Lemonade's prices prove 68 percent cheaper on average.

The largest homeowners' insurance companies offer different entry-level coverage, with rates to match. This chart compares their total monthly fees with Lemonade's, for equivalent coverage of the same renter.



SOURCE: Lemonade



Who's Backing Lemonade's Growth Trajectory?

Lemonade is backed by some heavy-hitting insurance and tech names among its financial backers, insurance backstop providers and key team members.

Venture Capital

Lemonade has raised \$60 million in three finance rounds:

- \$13 million seed investment by Aleph and Sequoia in late 2015
- \$13 million from XL Innovate and existing investors, and
- \$34 million from General Catalyst, GV (formerly Google Ventures)

Thrive, Tusk Ventures and existing investors. German based Allianz has also made an investment in Lemonade.

Insurance

Warren Buffet's Berkshire Hathaway is providing backstops for Lemonade's coverage.

Key Team Members

Team members include former president of product at AIG, a former chief underwriting officer, a former senior vice president of claims and AIG's head of financial planning and analysis of property and casualty.

of policies sold every 10 weeks. Revenue is growing even faster as the company is attracting more homeowners, translating into significantly higher premiums. However, many people don't understand exponential growth. If Lemonade were to continue doubling its policies in force every 10 weeks, after 16 more doublings (160 weeks) it would be larger than the entire current U.S. homeowner's insurance industry.

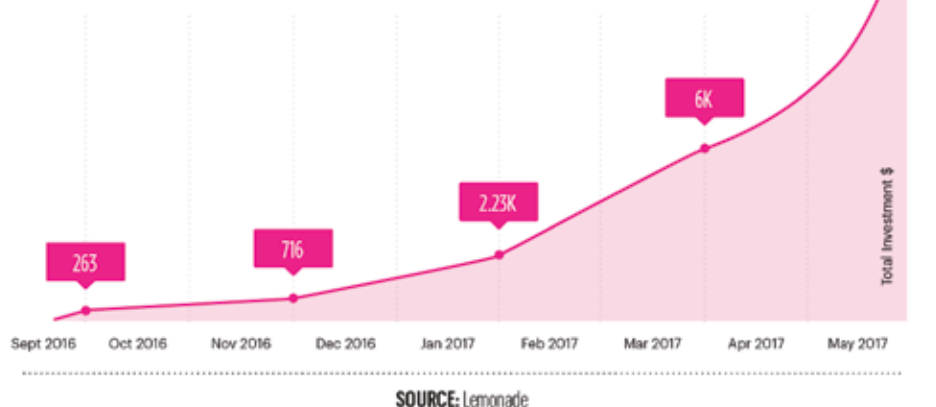
This exponential growth can only be achieved by moving insurance from being reliant on agents and paperwork into one that is built on bots and tech notes, says Peter Diamandis, the founder of the XPrize and one of Lemonade's founding board members.

Based on its annualized run rate of policies and average premium, at the end of its first year of operations, Lemonade will be selling \$23 million worth of policies a year. But at the moment, Lemonade is a tiny drop in the bucket compared to the \$42.6 billion that traditional U.S. property and casualty insurers collected in 2016.

DEMOGRAPHIC DRIVERS

In its first quarter of business, 75 percent of Lemonade's customers were 25-34 year olds. This is not a demographic that traditional insurance companies have targeted, for reasons previously mentioned. In fact, the average age for first time homebuyers in the U.S. is 33.

Young tenants have limited income, and are therefore price sensitive in their



initial insurance purchase. They are also driven by their values. Lemonade is different than other insurance companies. It takes a 20 percent fee of every premium dollar. The remainder pays for claims and any funds left over at the end of the year are donated to charities and not-for-profits, as directed by policyholders. The company is the first ever B Corp certified insurance firm in the world.

Millennials care about their communities and the state of the world. They want to deal with organizations that share their values. So Lemonade's focus on giving back to the community not only attracts value conscious millennials, but also builds trust — something traditional insurance firms are lacking.

Financial services are one of the least trusted industries by consumers, according to the 2017 Edelman Trust Barometer. And among financial services, only 53 percent of the public trust the insurance industry, making it the second least trusted. The experience consumers have with insurance companies becomes antagonistic once they file a claim.

Edelman's top three pieces of advice to the insurance sector are: 1) solve customer pain points; 2) invest in smarter technology to serve digital natives; and 3) focus on social purpose. Edelman's advice seems to be exactly what Lemonade is doing. And so better prepare for the revolution. ■

Jim Harris is the author of Blindsided, which focuses on disruptive innovation.

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TECH STRATEGIES

Rapid Rise of Voice

Our relationship to computers is profoundly shifting. Like Jean-Luc Picard in *Star Trek*, within a few short years most of us will primarily interact with technologies — smartphones, computers, smart home devices and our cars — by speaking to them. We are leaving the era of the GUI (graphical user interface) and entering the era of the AUI (audio user interface).

As of October 2017, 20 percent of all Google searches were voice searches and by 2020 that could rise to 50 percent according to ComScore. That means that there will be 600 billion Google voice searches in 2020.

This shift is being driven by a number of converging trends: the ubiquity of smartphones, the exponential increase in computational power, improvements of voice recognition and the rise of artificial intelligence (AI). Voice recognition has reached a tipping point by achieving human-level accuracy in speech recognition.

Amazon Echo and Digital Assistants

Amazon's Echo is a "smart speaker." Along with its AI named Alexa it has hit prime time. (Alexa is named after the ancient library of Alexandria.) The market has exploded in 2017 with roughly 35 million Americans now

owning a voice-activated assistant device. Amazon Alexa allows you to stream music, get breaking news, control your smart home and order an Uber or a pizza. Google also announced that it has already integrated a range of third-party services into Google Home, including OpenTable, WhatsApp and Ticketmaster.

With 70 percent market share, Amazon is by far the dominant player in this space. Some 44 percent of the 225 million U.S. smartphones have a personal assistant application that was used at least once a month according to Verito Analytics. The amount of time spent using these apps is relatively small but growing. Increasingly, people are using voice to dictate texts and answer questions with chatbots.

Your voice-enabled digital assistant on your smartphone can book

appointments, buy products, and even create and read a daily custom news highlight for you. In the near term it will also warn you of a service light on your furnace, when your tire pressure is low, and when you need to buy more milk. It will integrate with every smart internet-enabled device that you own. What people and companies imagine that digital assistants can do for us is mirrored by the explosive growth in the number of Alexa skills.

A skill is an application. So you can enable a cooking skill to read recipes to you in the kitchen while you cook. And there are commercial skills — Domino's Pizza has one to allow you to order — you guessed it — a pizza.

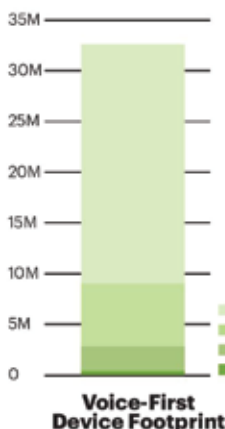
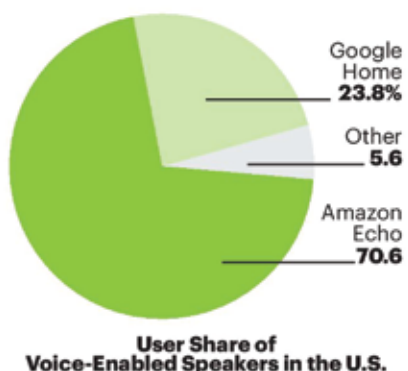
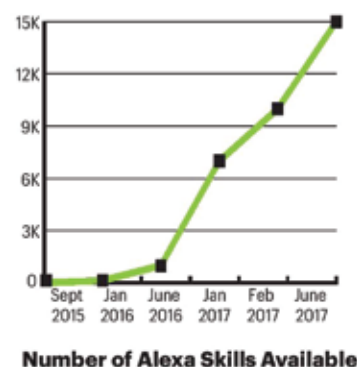
Amazon has been offering Alexa-only shopping deals to get customers comfortable with shopping by voice. Why would that be? Well, when I shop on my desktop I can have multiple browsers and windows open to price compare items. But when I shop by voice there's no screen and no comparison. So Amazon wants us to get addicted to the new medium to make the market.

This is the natural evolution of computing and there are profound implications for companies, brands and marketers. We have entered the era of voice. ■

Jim Harris is the author of Blindsided. Follow him on Twitter @JimHarris.

Voice Recognition: By the Numbers

From footprint to market share and AI tech enhancements, the trend is clear.



SOURCES: VoiceLabs analysis combined with research from CIRIO, KPCB, and InfoScout, eMarketer, KPCB, TechCrunch, Wired.

TECH STRATEGIES

Digital Spending Dominated by Smartphones Globally

For the first time, global digital spending will exceed \$1 trillion in 2018. And surprisingly, just three product categories make up 75 percent of this global expenditure: smartphones (48 percent); TVs (12 percent); and mobile PCs/tablets (15 percent).

The only category consistently growing in market share is smartphones. From 2011 to 2018, TV's market share of digital spending declined from 16 percent to 12 percent and mobile PCs and tablets fell from 19 percent to 15 percent. These declines are minor when compared to all other digital products combined — which have seen their market share cut in half (from 48 percent in 2011 to just 25 percent in 2018).

Smartphone Takeover

The key insight: smartphones are eating the digital world. Few people buy a point-and-click digital camera anymore because smartphones have 12+ megapixel cameras. (My Huawei Mate 10 Pro has dual Leica cameras — a 20 megapixel and a 12MP).

Why buy a GPS when your phone serves as one and you can use Waze to navigate city traffic? And today's smartphones have accelerometers that can track steps all day.

The last gadgets standing really are the TV and the portable PC — but even they are being challenged by the smartphone. TV unit sales have declined one percent a year globally since 2014 while the PC/PC tablet market has shrunk by seven percent a year.

Phablet Boom Driving Smartphone Market

Millennials now watch far more video on their smartphones than they do on TV and as they age, the trends are going to continue. What is driving all

this is “phablets” — large smartphones with high resolution screens so you can watch video anywhere.

Within the smartphone category, phablets are predicted to overtake regular smartphone shipments by 2019, according to IDC.

IDC defines phablets as smartphones with screen sizes of 5.5-inches to seven-inches. (The term phablet is a cross between phone and tablet.)

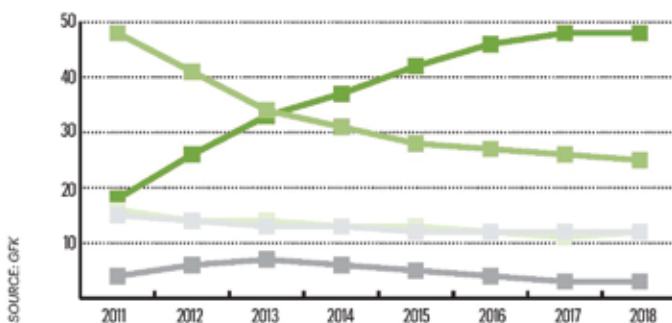
Between 2017 and 2021, phablet sales are predicted to grow at compounded annual growth rate (CAGR) of 18.1 percent and hitting a billion units by 2021. By contrast small smartphones with screens of 5.5-inches or less are expected to decline.

With more people watching video on phablets, this will challenge the sale of TVs. Smartphones are getting so powerful that they will begin cannibalizing PC sales. Imagine no longer taking a laptop on your business trips. Instead you just connect your smartphone to an external monitor and keyboard via Bluetooth and instantly it becomes your computing device.

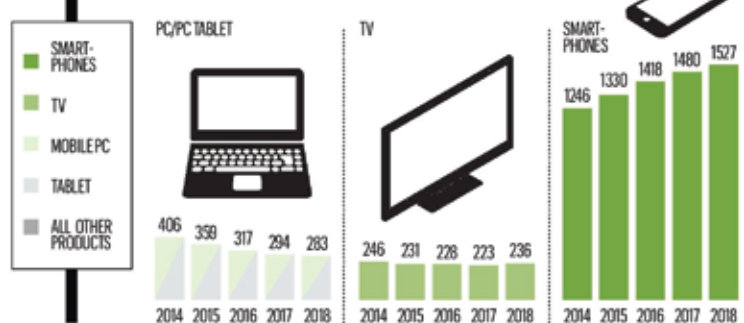
These trends are accelerating the shift from a PC-centric computing world to a mobile one. ■

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Three Categories are 75% of Global Digital Spending:
(Smartphones (48%), TVs (12%), and PCs/Tablets (15))



Global Sales of Digital Devices
(per million units sold)



TECH TACTICS

AI Enables Real-Time Translation

Star Trek's science fiction has become reality

Google recently unveiled Duplex, an artificial intelligence (AI) assistant at its developer conference. As your personal assistant, Duplex can call to book a hair appointment or make a restaurant reservation. The people on the other end of the phone won't even realize that they're talking to an AI.

Duplex uses AI, machine learning, cloud computing and bandwidth — all of which are exponentially improving technologies that also enable real-time translation.

The Era of Real-Time Translation

Universal real-time translation has always fascinated humanity thanks to its use in fictional stories like *Star Trek* and Douglas Adam's *Hitchhikers Guide to the Galaxy* (with the Babel fish). But it's no longer science fiction.

At CES 2018, I tested several hardware devices offering real-time translation including the Mars earbuds, which was a CES 2018 Best of Innovation Honoree in the headphones category. Mars' promo video shows a date with people communicating in two languages.

Other companies with translating earbuds include Waverly Labs Pilot, Mymanu Klik+, Google Pixel Buds, Bragi Dash Pro, while Ili and the Travis Translator are handheld devices. With Google Translate you can now use your smartphone and an internet connection to perform two-way, real-time translation from English into 32 languages without spending hundreds of dollars on hardware.

But if you're sitting in an auditorium listening to a speaker in a foreign language, having translation earbuds is much more practical than using your phone's speaker and disturbing others.

Some of these hardware vendors are at a disadvantage, however, because the Google

Translate app has been downloaded half a billion times, potentially turning away billions of smartphone users who already can access two-way, real-time language translation devices.

This technology highlights how Moore's Law — the idea that CPU power doubles every 18 months while staying at the same price point — has resulted in a smart-

phone having the same power as a \$30 million 1982 Cray supercomputer, despite costing \$1,000 and being pocket sized.

While none of these products offer perfect translation now, with the rapid advance in the underlying enabling technologies, it's only a matter of a few years until they'll be better than human translators.

Try It Out

Once you download the Google Translate app, it is incredibly easy to use. When you open it, select the "conversation" option (with the two-microphone icon) and choose your language, then the language you'd like to translate into and speak into your phone's microphone. Maybe you're exploring Paris and ask, "Which way is the Eiffel Tower?" Out of your speaker will come the translation of the phrase in French.

When you use this technology for the first time, I promise you will be amazed.

Implications

This is particularly beneficial for the global tourism industry, enabling tourists to interact easily with locals. Tourism is a \$2.3 trillion global industry with 1.2 billion travelers. It will certainly spell trouble for publishers of foreign phrase books.

It will also have implications for professional translators. Globally the language services industry is a \$45 billion market and it will ultimately be disrupted. Of course, translation in high stakes situations — closing business deals, court cases, or ambassadors debating at the United Nations — will still use professional translators, but in areas that aren't high stakes, these tools will proliferate. ■

Jim Harris is the author of **Blindsided**. *Follow him on Twitter* @JimHarris

TRANSLATING EARBUDS

- Mars Earbuds by Naver and Line using Naver's Papago
- Waverly Labs Pilot
- Mymanu Klik+
- Google Pixel buds
- Bragi Dash Pro
- ili
- Travis the Translator
- iTranslate application for iPhones





This article first appeared in Disruption Magazine.

An abstract graphic on the left side of the page. It features a dark blue background with various mechanical and symbolic elements. There are several gears in orange, red, and blue. A white crosshair is superimposed on a light blue cloud. A black silhouette of a person is visible near the top. A purple line with circular ends extends diagonally across the middle. A black plug icon is at the bottom right. Dashed lines and other geometric shapes are scattered throughout. Two thick horizontal bars, one orange and one red, cross the page.

COPING WITH UNPRECEDENTED CHANGE

STRATEGIES FOR THRIVING IN OUR
FAST CHANGING BUSINESS WORLD

We're experiencing more change than ever before, and the rate of those changes are accelerating exponentially. While it took the aviation industry 68 years to reach 50 million customers, it took Pokémon Go just 19 days.

BY JIM HARRIS

IT

used to be large organizations that dominated the small, but now it is the fast that are disrupting the slow. Uber is worth more than every taxi cab company in North America added together. Airbnb has more accommodation than the Marriott (the largest hotel chain globally). Tesla is worth more than General Motors. Amazon is worth more than Walmart added to seven other large retailers.

Most large organizations are constitutionally incapable of changing quickly. There are exceptions: large companies that were born digital – like Google and Amazon – are fast to change, fast to pivot, fast to take advantage of new markets, new business models and new services.

This unforeseen handicap is largely responsible for only twelve per cent of *Fortune* 500 companies from 1955 remaining on the list today. While bigger always meant better for businesses in the past, it is now making them harder to maneuver, their size becoming an anchor instead of a motor.

CHANGE: THE NEW NORM

Exponential trends like Moore's Law, the advent of 5G wireless (where you can download an HD Hollywood movie in 3.6 seconds), the Internet of Things (IoT) where we will have 50 billion connected devices by 2020, the plummeting price of digital storage (from \$1 million per gigabyte to less than 5 cents per GB today), declining cost of solar and battery storage are all enabling new entrants to disrupt once dominant market players.

To meet, evolve with and compete against these changes, change within organizations needs to be even faster than the disruptions flying towards them.

If the rate of change externally is greater than the rate of change internally, then disaster is imminent.

For traditional, hierarchical, large organizations, this is a tough concept as they are still working within slow, bureaucratic, command and control structures. These things have them set on cruise control while smaller, independent organizations have engines they've personally souped up for drag racing.

In other words – if technology is changing, customer preferences are changing and competitors are changing faster than your organization is then it's time to pick up the speed to get ahead of the pack or risk being run off the road.

PERSONAL STRATEGY FOR COPING

How amidst all this change can individuals cope? While large organizations as a whole may need to contemplate taking the kind of risks that involve a helmet and breakneck

Jim Harris

// Disruptive Innovation Speaker

Jim Harris is the author of *Blindsided* which focuses on disruptive innovation. It is published in 80 countries worldwide and is a #1 international bestseller. He speaks internationally at more than 50 conferences and seminars a year. Subscribe to this YouTube channel at <http://bit.ly/2lFJB5F>. You can follow him on Twitter @JimHarris or email him at jim@jimharris.com



speed, for us, as individuals, there may be a less frenetic way to look at this rate of change.

In a stressful situation such as this, I think about the Taoist Farmer:

Taoism is an ancient Chinese religion. There was a poor village in rural China. In it lived a farmer who owned a horse which he used for plowing and riding to market so the villagers considered him a wealthy man.

One day his horse ran away. And all the villagers said to him "What terrible luck, you've just lost all your wealth."

And the farmer replied, "Maybe."

Then two days later his horse came back bringing with it two wild horses. And the villagers said, "What incredible luck, all your wealth has returned and you're three times as wealthy as you were."

And the farmer replied, "Maybe."

The next day the farmer's only son was out riding one of the wild horses, trying to tame it and it bucked him off and he broke his leg. Three thousand years ago in China a broken femur was life threatening.

And all the villagers said "What terrible luck, you're only son with a broken leg."

And the farmer replied, "Maybe."

And the next day the Emperor's men came through the village conscripting every young man to fight in a war, taking every young man to their certain death, except for the farmer's son.

And the villagers said "What incredible luck."

And the farmer replied, "Maybe."

Sometimes the most wonderful events in hindsight aren't. And sometime the most difficult situations are the foundation upon which glorious things are built. But the "good" or "bad" of a situation is only seen by the light of the next day.

Life is paradoxical. We live it going forward but only truly understand it in hindsight. It's as if life gives us the exam first and the lesson later. In this same vein of thought, we do not have to react strongly to things immediately as we don't honestly know if they are horrible or wonderful until much later.

The Taoist Farmer is a powerful story about reframing. I actively use it to reframe situations. I will give you an example. At the grocery store there's only one "12 items or less" fast checkout lane. Imagine you're late

for a meeting, standing behind an elderly woman who clearly hasn't read the sign – because she's must have at least 20 items. And now she's counting out nickels from a change purse.

My default would be impatience – and frustration that she didn't read the sign. Instead, I use the Taoist Farmer principle to reframe the situation. Maybe in the extra two minutes she's delaying me, she's preventing me from driving through an intersection where a driver runs a red light and would have T boned my car. Or, maybe, allowing this woman to have the space and time she needs to shop and pay on her own terms is simply more important than my frustration. Either way, my impatience is unlikely to help the situation or make it move faster.

FOCUS ON FRICTIONLESS

I used to represent Stephen Covey, teaching *The 7 Habits of Highly Effective People*. Stephen used to urge clients to train every single person in the organization in the 7 Habits because it creates a common understanding of problems and an approach

to solving them. It significantly increases teamwork and synergy.

Amazon considers friction the enemy of efficiency and effectiveness. It's also a driver of stress.

I know of some organizations where employees need to get approval to buy \$1.19 of paperclips from Staples. Not only does this slow down productivity and create more paperwork, it undermines the intelligence of a workforce and creates the stress of working for a company that treats its employees as incompetent. Consider the fact that the same employee who is being forced to get approval on a buck's worth of paperclips is negotiating a \$200,000 mortgage outside of work.

This begs the question, is there some latent potential that organizations aren't tapping into? And if the organization was to double the spending limit to \$2.38 would it be getting anywhere close to what we're capable of? Would tripling that amount, in fact, improve morale by showing more trust within the company, increase the rate of change and actually cost the organization less?

When considering how much less time could be wasted when seemingly arbitrary rules are modified, it's easy to see that the greatest friction for most organizations is their own internal rules, policies and procedures. We can see that the "bad" outcome of letting more purchases slide through, may actually have a "good" affect in the longrun.

If we are to accelerate the rate of change in organizations then individuals, teams and functional departments need to be taught to identify, mitigate and remove friction. Reframing and friction removal are concepts that help people and organizations navigate business with less stress and more productivity

Ultimately, like a forward-thinking business, we must make changes, accept risk and give our workers and ourselves the tools and freedom we need to do our jobs well and efficiently. And, like the farmer, we must stay our course and accept that the future will reveal the present for the gift that it is.



JIM HARRIS

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Jim Harris is one of North America's foremost thought leaders, management consultants and authors on disruptive innovation. *Association* magazine ranked him as one of the nation's top ten speakers. He works internationally conducting strategic planning sessions with executive teams focusing on future trends, smart technologies and cities, mitigating risk, employee engagement and change.

His last book, *Blindsided!* is published in 80 countries worldwide and is a #1 international bestseller. *Blindsided!* has been named one of the best business books of the year by a number of organizations and Soundview Executive Summaries sent a summary to 80,000 executives worldwide. The *Miami Herald* calls *Blindsided!* "Brilliant stuff!"

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W

e are living in times of exponential change. Most people have heard of Moore's Law – the doubling of processor power every 18 months while staying at the same price point. In 1970 there were 2,000 transistors on a CPU (Central Processing Unit) – or computer chip. Today there are 20,000,000,000.

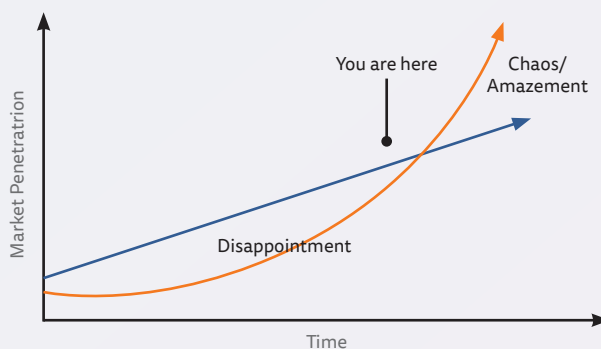
A gigaflop is a measure of computer speed – it's a billion transactions per second. In 1961, one gigaflop cost \$153 billion; in 2018 a gigaflop cost two cents. That means that today computing is 1) free and 2) is happening at the edge. In other words my \$1,000 smartphone has more raw computing power than IBM's Deep Blue which was a \$100 million project in 1997 that beat Gary Kasparov in chess. And I carry it around in my hip pocket at all times.

Moore's Law is just one law that is exponentially improving in price performance. There are dozens more. And when these technologies intersect and compound one another – 1) things that were once impossible become possible; and 2) industries can get blindsided.

Alexa, Siri, and Google Home all became possible because of voice recognition, voice to text, artificial intelligence (AI), and cloud computing. The exponential price performance improvements of all these technologies combined enabled this.

Star Trek fans will remember Universal Real Time Translation (URTT). Well, now it's a reality. The Google Translate App for smartphones will translate English into 100 different languages – and vice versa – in real time as long as you have access to the web.

CHARACTERISTICS OF A DISRUPTOR: EXPONENTIAL CHANGE AND TRAJECTORY



CHARACTERISTICS OF A DISRUPTOR

The most important characteristic of a disruptor is understanding exponential change and its trajectory. Most large, traditional incumbent organizations follow the trajectory of the blue line. Incremental top line growth every year.

The orange line represents an exponentially improving price performance of a technology and the growth of the company that is built on it. Both the technology and the company stay below the radar for a very long time. And by the time the incumbent organization can perceive the threat it's too late – the new company explodes onto the scene. At the time the orange line crosses over the blue, there is chaos and amazement.

KEY TECHNOLOGY COST PLUMMETING

Drones



Cost per unit

2007 **\$100,000**

2013 **\$700**

3D Printing



Cost averages for equivalent functionality

2007 **\$40,000**

2014 **\$100**

Industrial Robots



Cost per unit

2007 **\$550,000**

2014 **\$20,000**

DNA Sequencing



Cost per unit

2000 **\$2.7BILLION**

2007 **\$10MILLION**

2014 **\$1,000**

Smartphones



Cost of model with similar specifications

2007 **\$499**

2015 **\$10**