Disrupters

Five industries under threat from technology

Travel agents, manufacturers, insurers, advisers and car repair garages face strain

DECEMBER 26, 2016 by: FT Reporters

Over the past year, technology and sharing economy start-ups have continued their disruption of traditional industries — from Uber and other ride hailers' shake-up of the taxi market to Airbnb's myriad alternatives to conventional hotel stays.

But which will be the next businesses to be challenged by further digitisation and automation?

FT correspondents have looked ahead five to 10 years to identify those industry sectors and companies set to shrink — or disappear completely — as tech disruption marches on.

Here are their next five nominations for industries under threat of extinction.

Disrupter: Online travel platforms

•

Industry threatened: *High-street travel agents*• **Reason why:** *More travellers booking online*

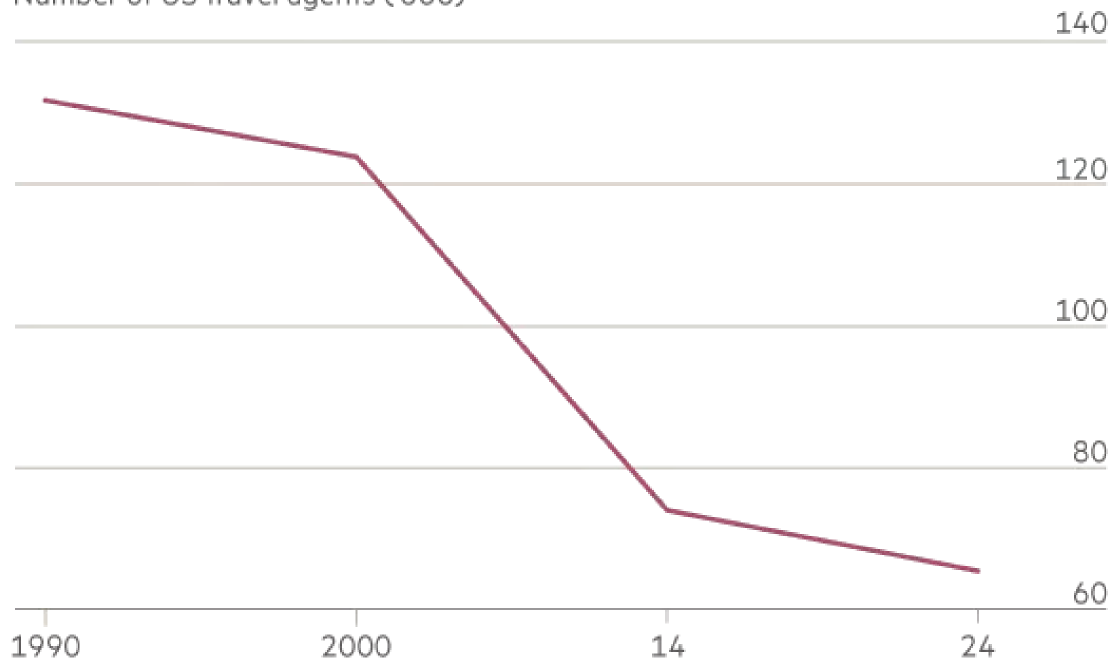
Tui is the world's largest tour operator, running high-street travel agencies under the Thomson and First Choice brands, *writes Murad Ahmed*. But its chief executive Fritz Joussen says the "end game" is to morph into a different kind of business — less reliant on selling package holidays and more focused on owning and operating hotels and cruise ships.

"We have today about 30 per cent to 35 per cent of profit contribution from hotels and cruises," he says. "In three years, I would say we will be way above 50 per cent. We are really transforming the company."

The changes at Tui reflect broader shifts in the industry. Traditional bricks-and-mortar agencies have been in decline for years, as travellers become more comfortable booking trips through online outlets such as Expedia.

According to the US Bureau of Labor Statistics, the number of travel agents in the US fell from 132,000 in 1990, to 74,000 in 2014. It has predicted that number will decline by another 12 per cent by 2024.

Thomas Cook, one of the UK's largest tour operators, needed a £200m loan in 2011 to tackle a cash crisis that had jeopardised its survival. Since then, it has closed hundreds of high street stores and plans to shut more if they are unprofitable. It has shifted towards selling travel deals online and creating trips through its own airline fleet and hotels. Last year, it returned to profit for the first time in five years.



Henry Harteveldt, founder of Atmosphere Research, says travel agencies will not wither away completely, but do need to change. "The ones that survive will be true experts," he says. "They could be used to book a significant trip — a honeymoon, a significant family getaway, or a complex journey like planning a safari.

"They will have found a niche and use digital tools to make sure people know who they are, as well as help their clients book . . . The question for the travel agency is do they need a retail storefront? To be honest, most don't."

Some customers still want face-to-face contact with travel agents. Research conducted by the Association of British Travel Agents suggested that the vast majority of travellers book online. But the number of people booking within stores rose slightly in the 12 months to October 2016 to 19 per cent, up from 17 per cent a year earlier.

ABTA's research suggests the "most affluent households" — the top 4 per cent of the population that represent the UK's highest earners — were most likely to book in store with 35 per cent having done so.

Mr Joussen said Tui would continue to sell package holidays but would become less focused on the "pure trading bit," where travel agents search for the cheapest prices on behalf of customers. Bargain hunters will turn to the web, rather than high street, to source the best deals.

Disrupter: 3D printers

●

Industry threatened: *Small component manufacturers and distributors*● **Reason why:** *Growing use of on-site 3D printing to make parts*

Any concertgoer knows it is easier to print tickets than pick them up or hope they arrive in the post, *writes Patrick McGee*. Businesses will soon realise the same applies to spare parts, equipment and electronics.

The explosion of 3D printers is expected to shake up entire supply chains, allowing companies to print much of what they need rather than order it, often from overseas.

Bosch Rexroth, the drive and control unit of the private German electronics group, projects that in five to 10 years up to 40 per cent of the manufacturing equipment it uses could be printed instead of purchased.

"If we look at spare parts for older cars or engines, prototypes for new products or small batches in manufacturing, 3D printing will make a major difference," says Dr. Stefan Hoevel, manufacturing process development manager at Bosch Rexroth.

Bosch is already printing objects to create prototypes that were either not constructible before or took a long time to process. Dr Hoevel says equipment manufacturing could become up to 60 per cent cheaper than conventional methods used today.

The technique is sometimes known as "additive manufacturing" because of the way plastics, metals and other materials are built layer by layer.

At the Munich show Electronica in November, Israeli start-up Nano Dimension showed how 3D printing would go well beyond making simple parts. The company's desktop-sized Dragonfly printer can create multilayer printed circuit boards — the film-like boards found in smartphones and computers that allow signals and power to be transmitted.

Amit Dror, chief executive, says the 3D printing of circuit boards would boost the research and development process for prototypes, allowing electronics companies to bring new products to market faster.

In a demonstration of the latest methods this year, HP printed a lightweight quarter-pound chain link in less than 30 minutes — then attached it to a hoist and lifted up a car.

The Jet Fusion 3D Printer used is jokingly called "the printer that prints itself" by Stephen Nigro at HP, as nearly half of the parts comprising it can be printed.

"We are not doing this because we can; the printer is printing itself because it makes economic sense to do so," he says. "We think 3D printing will play a key role in changing the way the world designs and manufactures."

Disrupter: Driverless cars

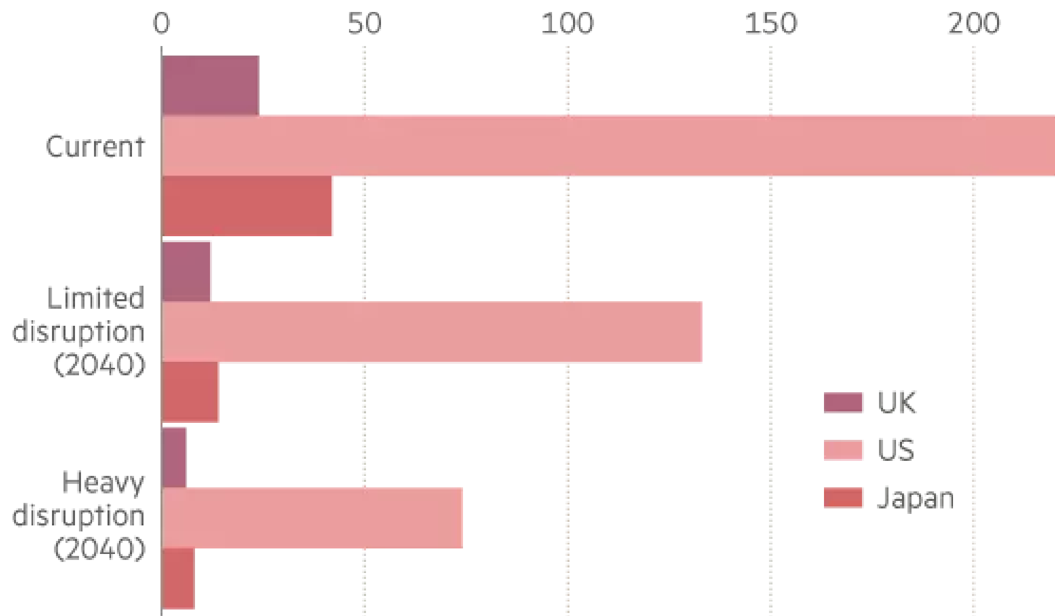
•

Industry threatened: *Motor insurers*• **Reason why:** *Fewer vehicle collisions with increased use of driverless cars*

Imagine a future in which fleets of driverless cars move quietly and carefully around our cities and countryside, seamlessly picking up and dropping off passengers. There are fewer cars on the roads, and those that are there tend to have fewer collisions, *writes Oliver Ralph*.

For some, this is utopia. For the world's insurers it may be just the opposite. Motor insurance is one of the mainstays of the industry. It generates about $260bn in annual premiums for major global insurers and $17bn in profits, according to research from Morgan Stanley and Boston Consulting Group. They estimate that the motor insurance industry has a market value of about $200bn.

New technology, the analysts say, puts a big chunk of that under threat in a variety of ways. First, fewer cars and fewer accidents mean less demand for insurance. In mature economies the market size could shrink by more than 80 per cent by 2040. Second, the insurance that is needed will be bought by companies such as car manufacturers, rather than by consumers. And as carmakers and tech companies get better at collecting and using data, they may be in a stronger position to sell insurance than the insurance industry itself.



Insurers say that in the short term increasing automation is driving up the cost of car cover, because gadget-filled cars are more expensive to repair than more basic models if they are damaged in a crash.

Murray Raisbeck, an insurance partner at KPMG, says new technology will also create opportunities. "There will be different risks that need insuring, such as the risk of an algorithm failing, or cyber risks relating to driverless cars," he says. "There will be less bent metal and lower personal injury risk."

Some insurers are starting to react to the changing landscape. In the UK, Axa has joined a number of government-backed groups that are looking at how best to introduce driverless technology. In Japan, Mitsui Sumitomo and Tokio Marine, two of the biggest insurance groups, are examining new types of insurance products that might be needed.

But Mr Raisbeck says the industry as a whole needs to take more decisive action to deal with the threats. "In the UK there are a lot of talking shops, a lot of conversations and a lot of eulogising but there is not much capital invested in technology or in the partnerships that they'll need for the future."

"Insurers are good at reacting to change," he adds. "But automotive and technology companies are completely different competitors coming to try to eat their lunch."

Disrupter: 'Robo-adviser' websites

•

Industry threatened: *Financial advisers*• **Reason why:** *Growth of automated financial advice websites and tougher regulation*

Traditional financial advisers have encountered a blizzard of regulation in recent years and now face being usurped by algorithms, *writes Aime Williams*.

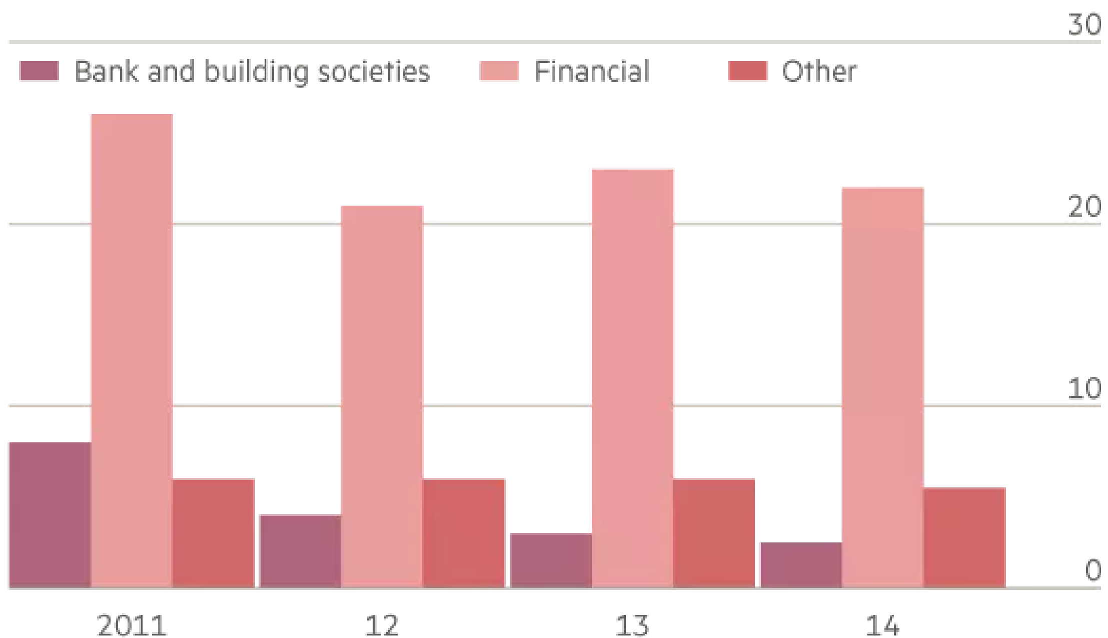
The profession began to run into trouble in 2006 when the UK financial watchdog announced a probe into how funds were being sold to retail investors.

New rules introduced in 2013 fundamentally altered advisers' business model, banning fund houses from paying them commission and increasing the minimum level of qualifications advisers should have.

Liberatum, an association for financial advisers, estimates that 13,500 advisers left the industry following the introduction of the new rules, while the UK's Financial Conduct Authority puts the figure at 2,000.

The commission ban, which removed advisers' main source of income, forced those remaining in the business to either raise fees charged to retail investors or increase the minimum investment sum they would offer advice on.

Suddenly unable to afford their adviser, swaths of investors began to turn to one of the new breed of "robo-advisers", which emerged in 2012.



"Robo-advisers" — websites that recommend a portfolio of funds based on an investor's answers to an online questionnaire — have tried to disrupt traditional face-to-face advice by offering a low-cost alternative to customers who are increasingly comfortable with digital investing.

Citigroup estimates that assets managed by robo-advisers could reach $5tn globally during the next decade.

Banks, asset managers and wealth managers have also spotted the potential of "robo-advice" as a way of helping retail customers, piling into a space once dominated by nimble financial technology companies.

UK banks Barclays, Royal Bank of Scotland, Lloyds Banking Group and Santander UK have said they are developing online investment websites, as has Swiss bank UBS and wealth managers Investec Wealth, Brewin Dolphin and Killik & Co.

Other big companies have bought into start-ups. Schroders, the FTSE 100 asset manager, took a £12m stake in robo-adviser Nutmeg, while Allianz Global Investors acquired a holding in robo-adviser MoneyFarm, which first launched in Italy.

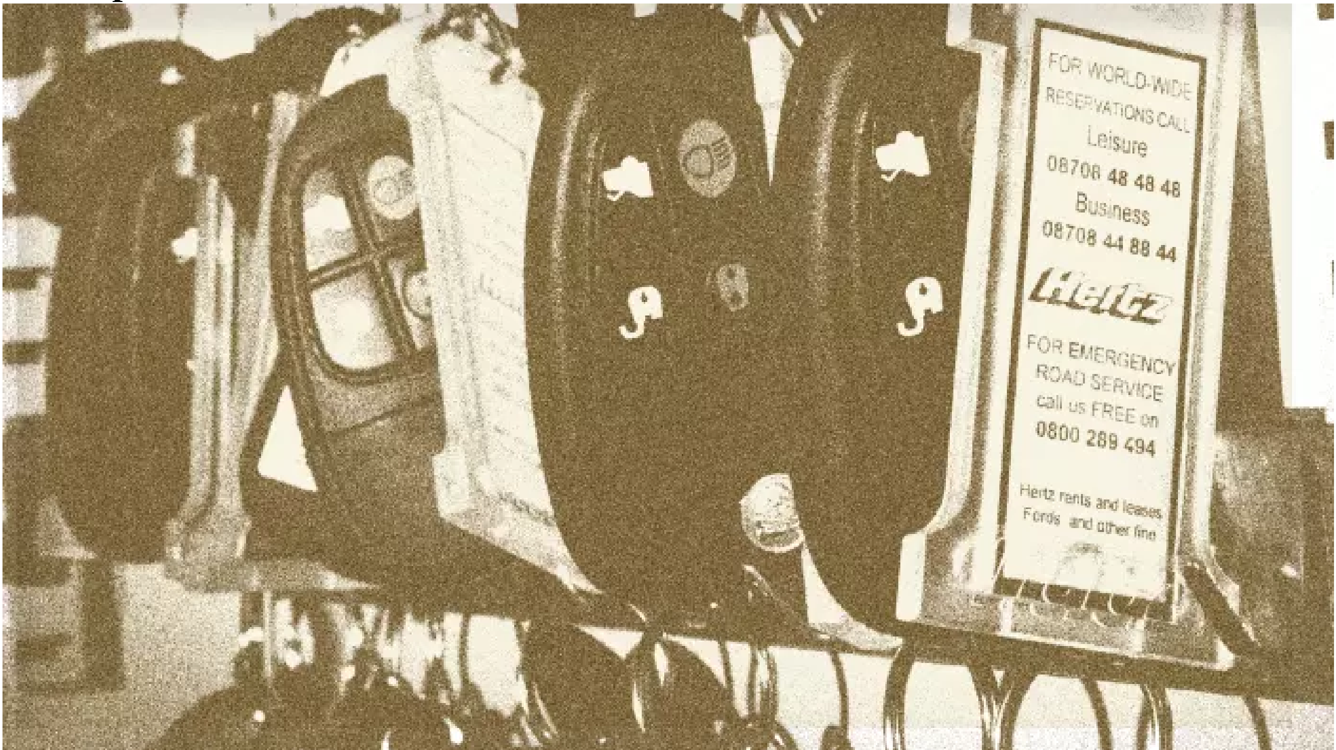
In the US, automated wealth management services run ETF portfolios and also reinvest dividends and optimise tax efficiency. Betterment, which charges 0.15-0.35 per cent, now manages $6.7bn in assets for 210,000 customers.

In the FCA's review of the financial advice market this year, it and the UK Treasury said they would look into making it easier for investment advice to be offered online at low-cost, after finding that two-thirds of retail investors were buying financial products without advice.

The increasing popularity of passive funds also looks set to boost the growth of robos over the next few years — robos generally encourage investors to put their cash into passive portfolios rather than into funds run by more expensive stock pickers.

According to Morningstar, the data provider, assets under management in passive funds have grown by 230 per cent globally since 2007, hitting $6tn. Over the same period, actively managed funds have doubled to $24tn.

Disrupter: Electric vehicles



•

Industry threatened: *Car repair garages*• **Reason why:** *More drivers switching to low-maintenance electric cars*

Electric cars are often marketed to consumers on the basis that they are cleaner and cheaper to run than petrol or diesel rivals, *writes Peter Campbell.*

But because they contain virtually no moving parts — other than the wheels — battery cars boast another advantage: there is almost nothing to go wrong under the bonnet.

While that may be good news for motorists, it spells trouble for the thousands of garages that make a living servicing and fixing petrol or diesel cars.

The aftersales sector is not only a huge source of jobs within the industry, it is also one of the most profitable parts of the motor sector.

"The business of selling cars is very low margin," says Philippe Houchois, an automotive analyst at Jefferies. "But as long as we have cars with an internal combustion engine the repairs will continue to be the main source of earnings for dealers."

While an internal combustion engine in a car sold today may have several thousands of moving parts within it, an electric Tesla contains just 18 moving pieces, according to Credit Suisse.

"Electric motors need virtually nothing doing to them," says Steve Nash, chief executive of the Institute of Motor Industry, a professional body in the UK.

The IMI estimates there are 40,000 aftersales businesses in the UK alone, ranging from large groups such as Kwik Fit to a vast number of smaller independent garages. An exact number is hard to calculate because many never affiliate to a trade body.

The vast majority of electrified cars sold in coming years will contain a form of mild-hybrid technology that uses both an engine and a battery, analysts expect. But battery-only cars, a growing part of the market, will require a fundamentally different set of skills to maintain, such as electrical expertise.

Volkswagen recently said it would retrain 7,000 engineers in electric technology, as the German carmaker strives to make a quarter of its cars electric by 2025.

"Because they look like cars, politicians assume that someone who works on cars will be able to adapt themselves to it," says Mr Nash, stressing the need for specialist training as well as the high risks of tampering with an electric car.

The stakes of tampering with an electric car without sufficient training are high, he adds. "An electric car battery can produce 3-400 volts of electric current. That is worse than being plugged into the electric chair."

Car rental groups face threat from technology

Shifting patterns of car ownership should be good news for rental groups, as people eschew full ownership for part-time leasing.

But the rise in cities of transport services, such as Uber and rival offerings proposed by carmakers, is forcing rental companies to look at their business models.

The ascent of fleet-footed technology-driven competitors means traditional hire groups risk being outpaced.

Europcar, the largest operator in Europe, has started a number of projects looking at transport options, from car sharing to other services.

The company recently bought out its Irish franchise in a move that gave it ownership of Ireland's largest car sharing service, GoCar, which has 150 vehicles in operation.

But there is growing competition in the space, with carmakers from BMW to Renault offering shared-ownership schemes.

The ease of booking car rides through an app — as well as the comparatively low cost — will also force rental groups to invest more in technology to remain competitive.

"I think what the car rental companies need to do is make it really easy to rent a car," says Philippe Houchois, an automotive analyst at Jefferies, citing app-based competitors such as ZipCar.

"Right now it takes 20 minutes doing paperwork, and it feels very 20th century."

Print a single copy of this article for personal use. Contact us if you wish to print more to distribute to others. © The Financial Times Ltd.

Read latest

Law firms programmed for technological disruption

Latest on Disrupters

Special Report **Asia-Pacific Innovative Lawyers 2017**

Law firms programmed for technological disruption

From 'smart contracts' to apps, opportunities to replace lawyers with software abound

Special Report **Asia-Pacific Innovative Lawyers 2017**

The best law firm innovators alter their culture

By embracing technology, firms are more likely to accept the inevitability of change

Disrupters

US-Asian rivalry 'to drive internet's next phase'

Former dotcom star analyst Meeker says India and China are in an 'enviable position'

Latest in Companies

fastFT

Bundesbank's Weidmann warns of digital currency risks

NEW 18 MINUTES AGO

Utilities

Thames Water fined £8.5m over water leakage

Regulator Ofwat to investigate England's biggest water company

NEW 46 MINUTES AGO

Health Care

Chinese group nears deal for US care chain Brookdale

Transaction poised to escape Beijing's clampdown on offshore acquisitions

NEW 58 MINUTES AGO

Follow the topics mentioned in this article

Electric Vehicles

Automobiles

Industrials