

2016

Global Tech Report

**AUTO FINANCE
DIGITALLY
REMASTERED**




**White Clarke
Group**

White Clarke Group

White Clarke Group is the market leader in software solutions and business consultancy to the automotive and asset finance sector for retail, fleet and wholesale. White Clarke Group solutions enable end-to-end credit processing and administration to streamline business practice, cut operational cost and deliver outstanding customer service. White Clarke Group has a 24-year track record of leadership and innovation in finance technology, consultancy and new market entry. Clients value White Clarke Group's industry knowledge, market intelligence and innovation. The company employs some 600 finance and technology professionals, with offices in the UK, USA, Canada, China, Australia, Austria and Germany.

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Auto finance digitally remastered

Brendan Gleeson,
Group Executive
Vice President,
White Clarke Group

When we held our inaugural Auto Captives Summit in November 2015, our aim was to bring together leading players in the auto finance sector with technology experts to take a look at how technology is starting to disrupt our industry, and to identify how new innovations will change the way consumers behave and the way the industry works.

The message from those closely involved with key trends in digital and online technology was clear: The auto finance industry is facing a very significant level of disruption as new technology developments take hold and fundamentally transform the way in which companies and consumers do business.

We've seen this pattern already in other established industries, such as the music business or photography. Technology which was once ubiquitous, e.g. vinyl, CDs or rolls of film, has disappeared as digital options have emerged. The impact of this 'digital remastering' has been significant for companies like Sony, Blockbuster and Kodak, all of whom have seen their traditional business models changed beyond recognition, and in some cases rendered obsolete.

Finance companies face challenges on a similar scale – this is not an evolution in the way the sector operates, but a revolution. For some, adopting new technologies will be a way of creating new offerings and gaining market share; for others, those same technologies will prove a major competitive threat.

These enormous changes are being driven by three factors:

- ▲ changing customer expectations, with the rise of the Millennials
- ▲ different business models
- ▲ very rapid advances in technology

Against this constantly shifting background, some critical elements stand out as the issues we all need to address. Our discussions identified a range of technology and consumer trends which will be driving auto finance industry developments throughout 2016 and beyond.

In summary, they are:



INNOVATION EXPLOSION

New technologies coming on stream and making an impact faster



ARTIFICIAL INTELLIGENCE

Pattern recognition revolutionises analytics



RISE OF THE MILLENNIALS

Working online as preferred option for interacting with any organisation



CONNECTED SERVICES

Collaborative networking creates new business models



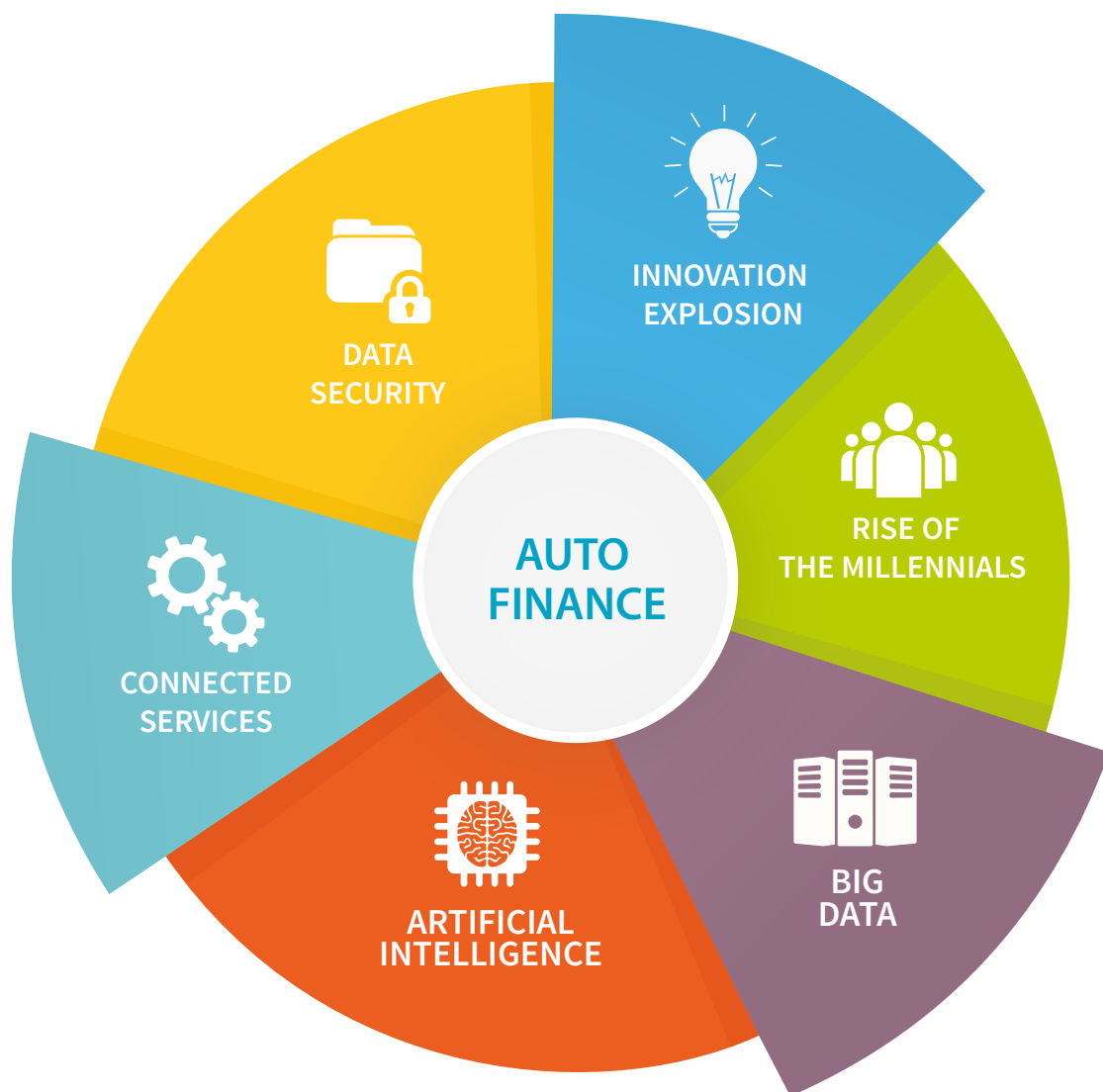
BIG DATA

Better ways to collect and analyse increasing data volumes



DATA SECURITY

Keeping information safe is a priority



In this report we take a look at each of these trends and consider how they interact, as well as evaluating some of the next steps for those who want to embrace new ways of working. The auto finance industry is on a journey to a new kind of approach to developing services and supporting customers. The road ahead may be bumpy and there may well be some wrong turns, but the signposts to what is happening in 2016 and beyond are there to be followed.



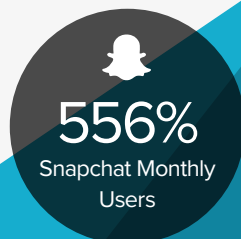
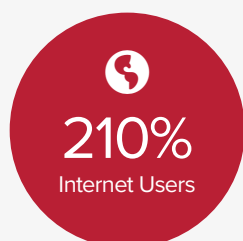
The innovation explosion

The World Wide Web was first conceived back in 1989 when its inventor, Sir Tim Berners-Lee, specifically sought to create a way for everyone to access all the information held on computers. Prior to the launch of the web, the time lag between developing a new innovation and it having a disruptive effect used to be 30–40 years. Now we are seeing an explosion in innovation. That is driving far faster change, as well as changing customer behaviour.

The immediate question for dealers and finance companies is how online is their business?

The world is increasingly online and direct

Over the last 7 years everything has exploded. Increases include:

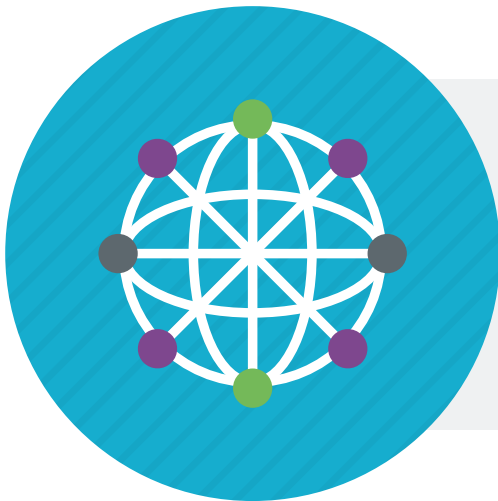


**But how online is your business?
Where will the dealer channel be in 5 years?**

In many ways the current situation has parallels with the arrival of the printing press, with the internet making it possible to access vast quantities of information which can be easily shared and understood.

Today, everything is online, and increasingly direct. The number of internet users stood at 1 billion in 2008 and had tripled to reach 3.1 billion by 2015. Predictions suggest that by 2020, 31 billion devices will be connected to the internet, and that includes most cars via in-vehicle technology and apps.

This matters because everybody and everything is becoming connected in a seamless fashion, and a new generation of car buyers has never known anything different



Internet Users

2008: **1.0 billion**

2015: **3.1 billion**

This matters because everybody and everything is becoming connected in a seamless fashion, and a new generation of car buyers has never known anything different. Already we have seen consumers embrace new mobility options such as the Uber car app, with take-up accelerating in a matter of a few months.



The rise of the Millennial generation

Fuelling this fast adoption of new technology is the rise of the Millennials, the cohort born between 1980 and the mid-2000s, who currently represent around a third of the world population. They spend an average of 17.8 hours a day consuming media, across multiple media sources, some of which are consumed simultaneously, and their preferred methods for communicating include social media, such as Instagram, YouTube, Facebook and Twitter.

Millennials and market potential

Millennials a.k.a. Generation Y or the Net Generation



By the year **2025**
75% of the workforce
will be **Millennials**

- ▲ Born between 1981 and 2000 (34% of the world's population)
- ▲ Also called Net Generation because they don't remember a time when there was no Internet
- ▲ Highly educated, self-confident, technologically savvy and ambitious and extremely "connected"
- ▲ Demand customer service combined with low brand loyalty

They rely heavily on 'word of mouth' for buying advice

73% follow Social Media recommendations

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For Millennials, being online is the norm, and in the words of Jonny Combe, General Manager, Product and Channel Management at BMW Group Financial Services, “the battle is won or lost in the world of the digital real estate, rather than the car showroom.”

By 2025, Millennials will account for 75% of all new vehicle purchases. Combe is in no doubt as to the influence of the Millennials’ pound. He points to BMW research which shows that in 2003, a would-be car purchaser made an average of four visits to a dealership before buying. Just 1% of buyers carried out any kind of online research, and under 1% would even consider buying a car online.

Millennials and market potential

Millennials a.k.a. Generation Y or the Net Generation

- ▲ Nearly 30% of lease volume in the USA (2015 Edmunds.com)
- ▲ In the next 10 years, 40% of all new vehicles will be sold to Millennials (AutoTrader)
- ▲ By 2025, Millennials will comprise 75% of the global workforce (2014 The Deloitte Millennial Survey)
- ▲ Over 80% of Gen Y consumers plan to purchase or lease a vehicle within the next 5 years (Deloitte, 2014 Global Automotive Consumer Study)
- ▲ 44% willing to purchase a vehicle online (2014 Cars Online Capgemini)



Fast forward a decade, and by 2013 the average number of dealership visits has fallen to 1.5, while virtually all (92%) of purchasers do their research online before going to a showroom and 42% say they are now willing to buy a car online. In 2014, BMW found in their research that that 97% of consumers use the internet to research possible car options, while a third (33%) of car buyers say they would consider purchasing a vehicle online.

With a report from TIME Magazine claiming that more than half of Millennials say they would prefer to visit the dentist than haggle with a car salesman, the auto finance industry clearly has a challenge to meet the expectations of the next generation of buyers.

Mobile

Where there is a Millennial, there is a mobile. The smartphone has become universal, and there are now more phones than people on the planet. Increasingly, these devices are being used for internet searches and also for making payments. The number of mobile banking users globally is forecast to double to 1.8 billion over the next four years, representing over 25% of the world's population according to KPMG.

The global mobile payment transaction market will be worth an estimated US\$2,849bn by 2020, up from US\$392bn in 2014, representing a compound annual growth rate (CAGR) of 39.2%. Asia Pacific dominated the market with 38% market share in 2014 in terms of users, and is expected to account for a 37% share by 2020.

What the auto finance industry needs to learn is the need for a coherent digital strategy: one which delivers the information the customer needs at the point it is needed in the customer journey



Start-up companies such as Uber have capitalised on this switch to mobile, developing apps which have disrupted traditional businesses like taxi services by exploiting the capacity for mobile devices to be used for information searches, location details and payment. Today, Uber is active in 290 cities and has over one million rides every day.

“What the auto finance industry needs to learn from such examples is the need for a coherent digital strategy: one which delivers the information the customer needs at the point it is needed in the customer journey,” Combe said.

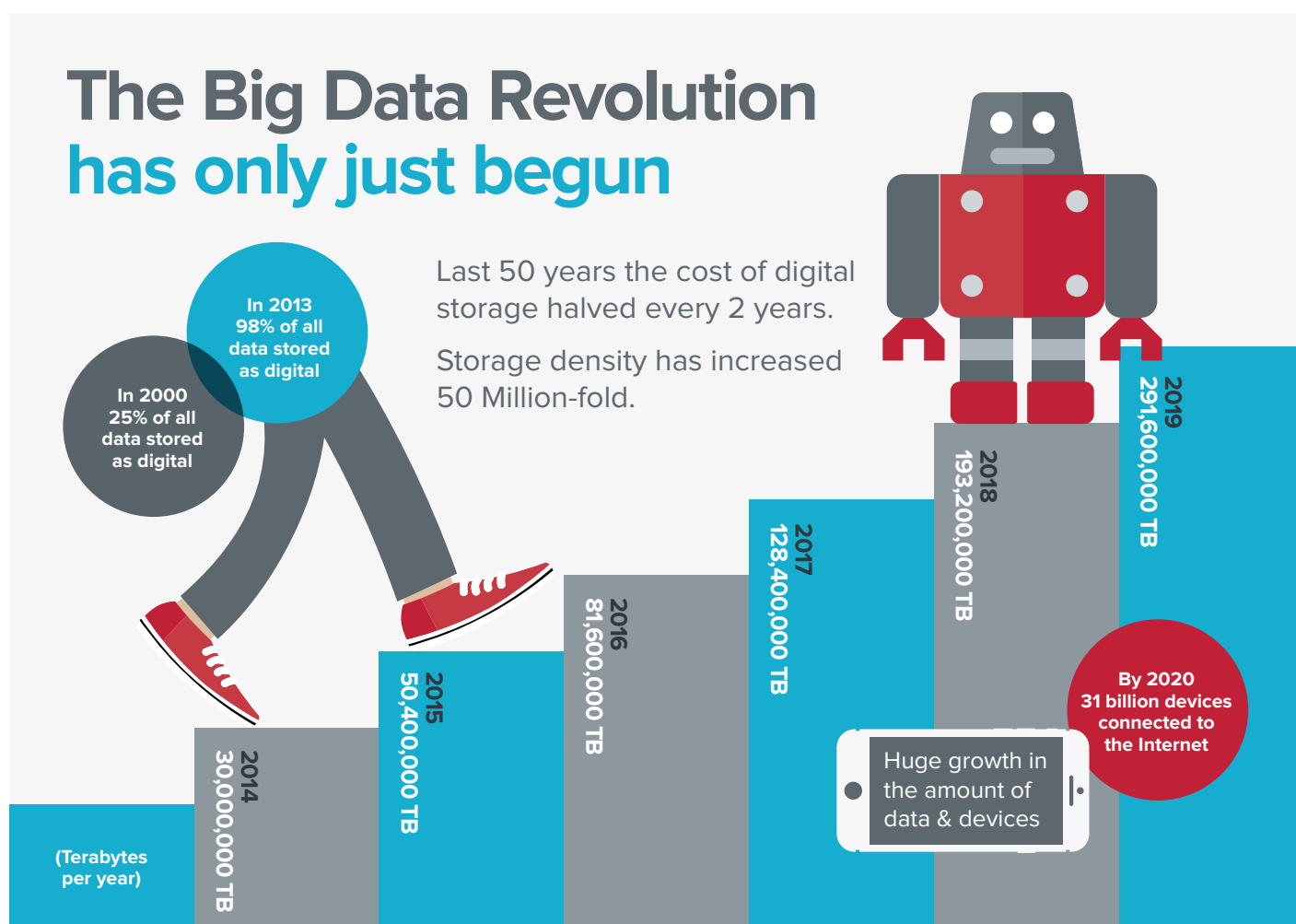
For auto finance captives, this heralds big changes in the ways in which they sell finance. The information provided on a finance website needs to be rich in detail, and capable of personalisation. The application process needs to be optimised for viewing on mobile devices, with increasing use of videos to explain propositions and illustrate options, and above all, the information has to match customer needs.



Big data

As the number of devices being used to generate and share information is increasing all the time, so is the amount of data available for analysis. One of the big drivers here is that the cost of storage now halves every two years, while density levels are up 50 million-fold.

As the cost of storage has plummeted and capacity doubled, so it becomes easier and cheaper to build vast stores of captured data. Whereas in 2000, 25% of all data stored was digitally; in 2013 virtually all data is digital (98%).



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This explosion of 'big data' is changing the way in which predictions are made from data: where once sample size was key, now data volume is critical. The US Center for Disease Control and Prevention (CDC) typically takes two to four weeks to analyse whether a flu epidemic is in prospect, while Google can give the answer instantly, based on analysis of the search terms currently being used by billions of online users.

Big data means focusing on correlation rather than causality, that is knowing *what* rather than *why*, which is cheaper and easier to do. The algorithms used by Amazon to make new book recommendations to past purchasers work on this basis, and are highly effective.

Companies will not survive on typical IT staff; they need to recruit for big data scientists.

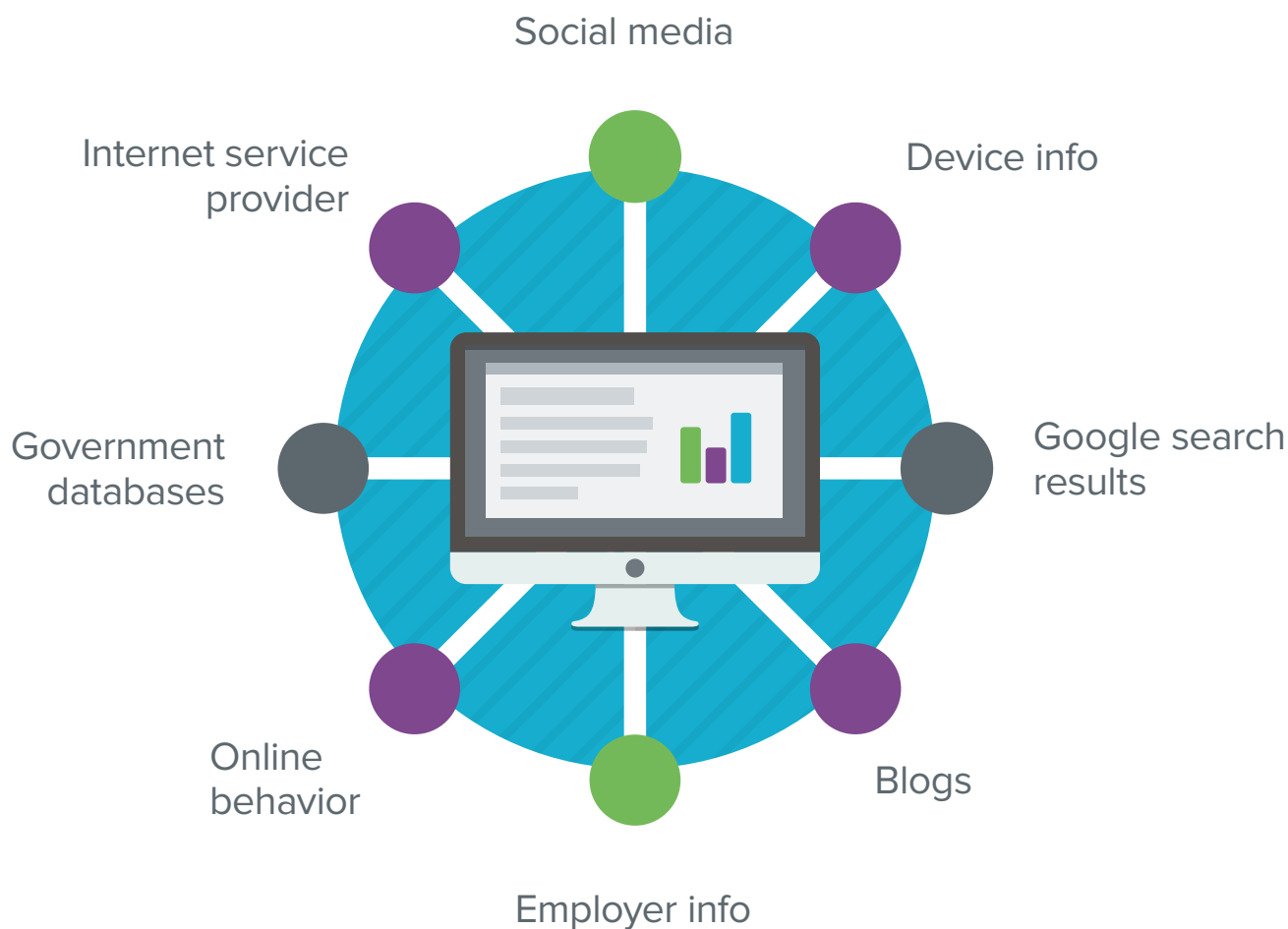
There are lessons here for the auto finance sector, which can now find out much more about customer behaviour in real time. Information is flooding in, from customer interactions on finance websites and via mobile payments; from telemetry and sensors within the car; from GPS data gathered during regular journeys; and from a host of other sources.

Today, companies will not survive on typical IT staff; they need to recruit for big data scientists.

Only 5% of the data available is structured, and much of it is messy, including details such as engine noise, body position, or geographic location, which are not normally thought of as data. However, having more data trumps having better data, because it gives the bigger picture. Having lots of data available in real time means finance companies are able to mine the information to spot correlations and thus fine-tune their offerings.

Credit scoring

This explosion in the amount of data available opens the way for predictive analysis in areas such as credit scoring, which has traditionally been based on looking at a small number of strong variables, such as late payment. New models now look to analyse huge amounts of weaker variables, such as data from social media or across the internet.



This approach is starting to change the way credit decisioning is carried out in the case of potential buyers whose circumstances have previously meant auto finance companies have not been able to access much credit or data history in the usual way.

As Erki Kert, CEO of Big Data Scoring, explains, big data and pattern recognition techniques combined allow lenders to assess potential customers who would previously have failed credit scoring checks, because they did not meet any of the traditional tests. That makes it possible to reduce the risk of offering finance to groups such as the young, the under-banked and the non-prime. This is especially important for Millennials of emerging markets, where credit history data can be patchy.

“By analysing individuals’ online behaviour it is possible to reduce the number of applications which are declined, typically improving the loan portfolio by 20% to 25% and cutting credit losses,” Kert said.

Social media activity can give an indication of an individual’s spending pattern and payment behaviours, while information about where that individual is when using their mobile can be used to analyse the neighbourhood where they live and work, and can all be combined with publicly available data such as online employment profiles.

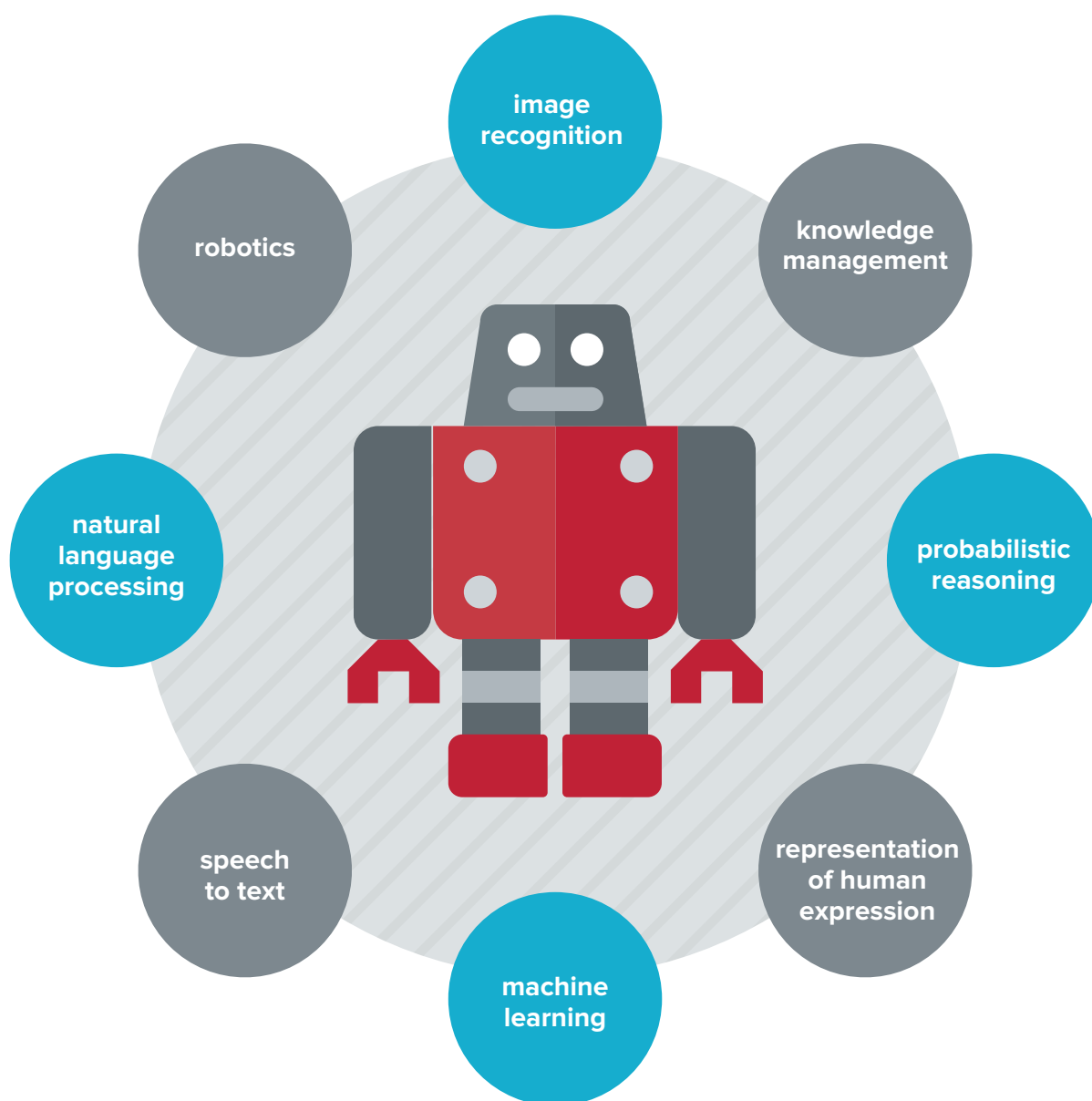
Social media activity can give an indication of an individual’s spending pattern and payment behaviours.

One US big data scoring company has already adopted this model, looking at 70,000 variables and using multiple underwriting models. It has outperformed the industry by around 30%, without access to full records on any given customer and with 10% of those listed found to be dead.



Artificial Intelligence

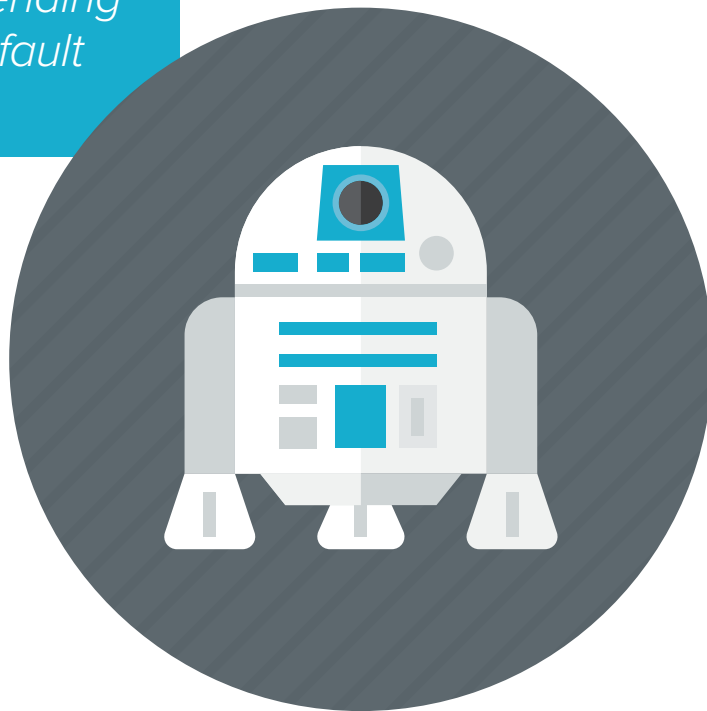
Artificial intelligence (AI) and natural language processing (NLP) are two other technologies which are moving out of the lab and into the business world, helped by the explosion in the amount of data available. Having large amounts of data available makes these options much more effective, with the result that today's AI systems train themselves as they learn and this, coupled with the volumes of data, better software and cheaper processing power, is making AI a very powerful concept.



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In China today, just 10% of internet searches are by voice, but by 2020 this is predicted to be 50%. Voice recognition is a key element in AI, and many customers, especially while driving, would prefer to use voice for online services. Currently 45 financial services companies are signed up to the IBM Watson program, which offers a cloud-based voice recognition service, primarily in the area of risk and compliance.

A finance company could track an individual's spending patterns to predict a default before it even happens.



AI also embraces facial recognition, from which it is possible to determine someone's emotions. Combining this with pattern recognition means that an AI system is likely to be more effective at Finance & Insurance (F&I) Sales than a human, giving better advice more quickly and in a way the customer has come to expect.

Customers have increasingly sophisticated expectations of what technology should do for them, and predictive technology can help companies to meet this, like an app which sets the mobile alarm for a wake up call, then checks traffic conditions in real time, re-setting the alarm time and the route to work if congestion has built up. Similarly, a finance company could track an individual's spending patterns to predict a default before it even happens.

Customer service

Recent advances in AI have enabled organisations to deploy technology which can learn to understand what information customers want, through pattern recognition and analysis, and to guide them efficiently to it via an automated process which is capable of understanding the meaning of spoken or written sentences and giving an instant reply.

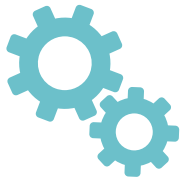
This technology promises to revolutionise the customer experience while potentially driving down the cost-to-serve, as computers replace call centre staff as the first line of response. Increasingly, consumers want to search the internet by voice rather than via text. Using voice commands to seek information from a traffic app while driving, or query a loan balance, for example, is much easier and safer than using the keypad.

Companies using NLP have reported cost reductions of up to 40%, associated with fewer calls to helpdesks or online chat services and quicker resolutions, with productivity up by as much as 200%.

Luc Truntzler is Associate Director of Inbenta, a company which uses AI and NLP to meet customer support needs online by answering questions instantly and automatically. He says adopting this technology gives auto finance companies two key advantages: great client satisfaction as they have an immediate response, and cost reductions.

Companies using this approach have reported cost reductions of up to 40%, associated with fewer calls to helpdesks or online chat services and quicker resolutions, with productivity up by as much as 200%. The sophistication of the technology means the system is responding directly to what is said, and identifying the meaning, rather than requiring the customer to use a very structured approach.

“In 80% of cases of support inquiries, customers have one question and are looking for one answer, so using this approach works well for the low value added questions, where there is no need to start a conversation. The system is the first option for those, while the higher value added questions can be passed on to the chat service,” Truntzler explained.



Connected services

Put all these new technologies together, and finance companies can transform their interaction with potential buyers and customers, moving into a world where everyone is connected and information is available anywhere, anytime and real-time. That opens the way for dynamic services which can respond more immediately to customer demand, as well as offering consumers the opportunity to 'self-serve' by looking up the information they need via an app on their phone.

Richard Jones, Black Horse Managing Director, argues that the auto finance industry is now "at the foothills" of a digital journey to create greater customer value. Big data and other technology developments are driving a raft of trends including PCP, pay as you go finance, car sharing, autonomous cars and, above all, the switch from consumers who want to own a car to those who prefer simply to pay for usage.

What lenders and customers are both looking for is the 'connected sale', where dealers and funders use data to build offers which integrate the sale of the vehicle and its finance.

Digital technologies enable lenders and dealers to enhance existing services to customers, for example by "clearing out clutter" in the vehicle research and credit authorisation processes so applications are streamlined, paperwork is minimised and information is easier to access and understand.

Using this approach, finance companies can offer a customer a rolling line of credit to draw on from time to time, so the move from one car purchase to another is seamless. Self-service will become the norm, with the customer looking after their own contract.

"At the moment, a customer might have six different elements in a contract, and they will be looking for 'plug and play' packages covering all the options to make it all simpler," Jones said. "What lenders and customers are both looking for is the 'connected sale', where dealers and funders use data to build offers which integrate the sale of the vehicle and its finance. That's going to be driven by car market analytics."

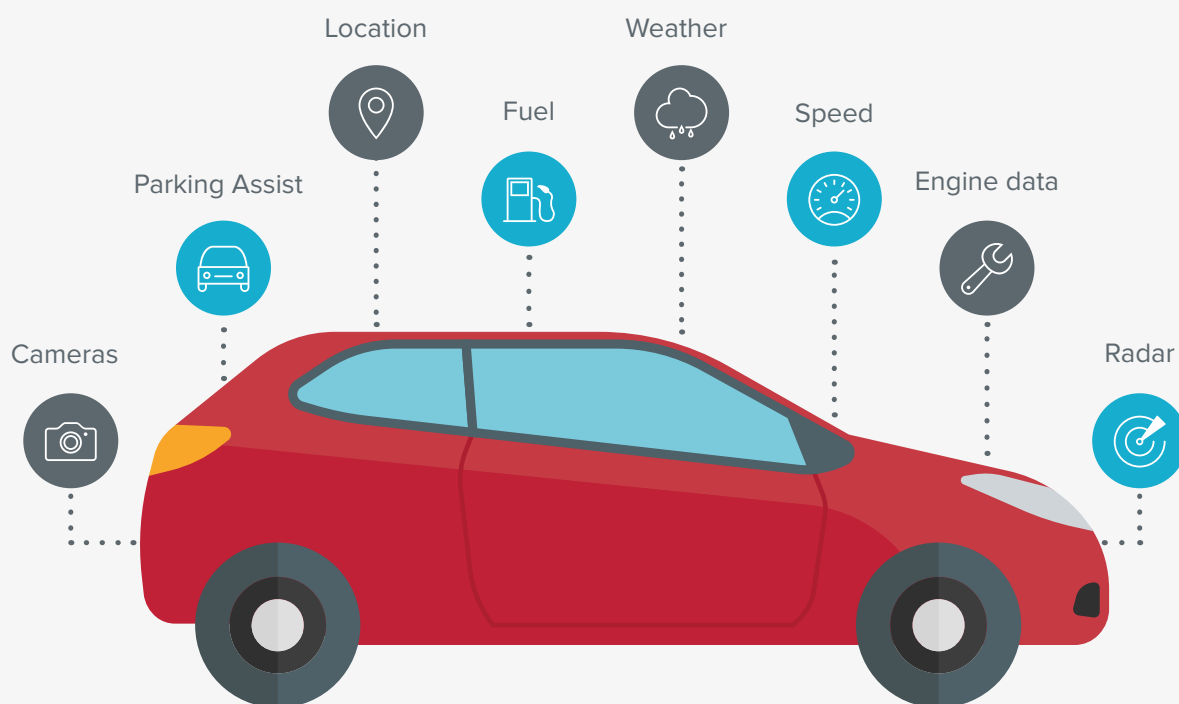
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Connected cars

Some would go further, pointing out that by 2020, 90% of all new cars will have networking ability and become “connected cars”, offering finance companies the chance to stay in contact with a customer throughout the car’s lifecycle.

Vehicle Sensors

Connected cars



All of these new technologies can be included within the vehicle itself, which will be capable of constantly receiving and distributing digital information. That means funders, manufacturers and dealers all have a constant link with the consumer, moving from a model of “ship and forget” to “ship and remember”.

With sensors in the connected car information can be sent back to fleet managers alerting them when a vehicle is close to breaching its mileage limit under the existing contract, or to predict when a service booking will be required and pass on details of component performance.

For insurers, information based services make it possible to tailor products according to driver behaviour, with options such as “pay when you drive” or “pay as you drive”. Dealers can use data from cars combined with location information to reconcile stock audits, checking when a car has left the lot.

'Zero Dollar Car'

These are all improvements to make existing processes more streamlined and cost efficient. John Ellis, Managing Director Ellis & Associates, is a global technologist and former Head of the Ford Developer Program at Ford Motor Company, and he argues that the next stage of development will see the rise of the 'Zero Dollar Car'.

Research shows that US car drivers spend an average of 1.2 hours a day in their car, and 38 hours a year stuck in traffic. “OEMs have responded with infotainment systems—most of which are not that good—and their responses are fractured and small scale. But what technology companies see is the chance to create a mobile eco system which allows marketers to harvest, analyse and process data which can be monetarized,” Ellis pointed out.

Sample data extracted from IVR system of cars on road today



In-car technology can provide data on location (near to a coffee shop, for instance) which can be combined with journey times and speeds, to create opportunities to push services and products, such as somewhere to take a break if traffic is slow.

This opens up opportunities for auto finance companies to collaborate with other organizations to create new business models.

Indeed, Ellis calculates that to a company with strong data processing and analysis capabilities, like Google, the average car driver is worth \$5,500 a year. For example, national weather forecast services would be prepared to pay for real-time data on road conditions and local weather gleaned from in-car sensors, which can be brought together to produce a more accurate picture of developments. Sensors which record bumps in the road provide valuable data for highway repair organisations.

The challenge for auto finance lenders is making sure that they are the provider which stays in contact with the car, and the consumer, over the whole lifecycle of the vehicle.

“When you look at this model, the car becomes a utility, and purchasers will be happy to give up 30% of the cost of the retail vehicle in exchange for allowing third parties to have access to all that data which is being collected,” Ellis predicted.

The challenge for auto finance lenders is making sure that they are the provider which stays in contact with the car, and the consumer, over the whole lifecycle of the vehicle. They will want to use that information to aid customer retention – but they now face new market entrants, such as Google and Apple, who see the opportunity to make money out of the data itself.



Data security

A further challenge lies in keeping all the data from consumers, connected cars and within finance company systems safe and secure. Big data and other technologies are streamlining the application process, by removing steps such as the need to provide physical evidence of documents to confirm identity in favour of online verification using secure services such as the one the UK government has begun to offer.

For their part, lenders need to ensure their services are safe from cyber-attacks and fraud.



This means that fewer applications are likely to be abandoned, but as credit checking and finance applications move online, so finance companies need to ensure that customers are protected from identity theft or a data breach which means their personal details fall into the wrong hands.

For their part, lenders need to ensure their services are safe from cyber-attacks and fraud. As well as the reputational damage from data loss, companies must also comply with a growing raft of EU regulations around data protection.

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Next steps for auto finance industry

All this technology innovation creates a battle over the ownership of the customer relationship. In a connected vehicle, who owns the data and therefore the customer – the manufacturer who installed the sensors or set up the app, the finance company whose contract put the customer in the driving seat, or the software company that collects and analyses the information?

Auto finance companies are now engaged in a battle for control of the dashboard, along with manufacturers and technology specialists

The answer is becoming very significant, because where there is data, there is value to be found.

Of course, the customer also owns the data because much of it is directly related to their own financial status and behaviour patterns. Companies will need to be able to prove that they have consumer consent to collect and use data from in-car and other systems, in order to meet regulatory requirements.

Auto finance companies are now engaged in a battle for control of the dashboard, along with manufacturers and technology specialists. The focus is moving from a one-off customer touchpoint at the time of the car sale to an ongoing relationship built around providing mobility and connected services. This is truly a revolution in how the market operates, with high prizes for the winners.

The supplier who maintains contact and controls the data is the one who will build the relationship with the customer. The question is whether lenders, dealers and manufacturers are ready for the shift from “widgets to digits”, with the ability to adopt new business models.

“I don’t believe new entrants will be able to break the cycle between buying a car versus buying car finance in any great way – as long as intermediaries stay relevant to the customer,” Jones predicted. “A lot of *digital* is just disrupting the user experience. Behind that, the business model hasn’t changed.”

Case Study One: Volkswagen 'blended retailing'

Manufacturer Volkswagen has seen the challenge posed by the switch to digital and has responded with a blended retailing approach known as "Bricks, Clicks and People" designed to give customers access to information consistently online and through the dealerships.

"Our approach is 'digital meets physical' and matches changes in people's buying habits," explains Graham Wheeler, CEO Volkswagen Financial Services.

"The idea that the dealership is dead is a myth, as 85% of consumers still use them as a main touchpoint, although a quarter say they are not satisfied with the process. They are looking for a personalised approach, where dealers use data gleaned from online interactions to configure the car to meet their specific needs," Wheeler said.

Volkswagen is investing millions into new digital showrooms which make it easy for consumers to pick out a car online, either viewed on screen in the dealership, or via any device of their choosing at any time. They can then select from a range of options and build up their own choice of car and finance package.

"Customers are selecting their budget and configuring a car to meet that. They are seeking a personalised experience. The challenge for us is to integrate and interlock all the sales and funding processes that go on between manufacturers and retailers so that buyers browse, buy and bond," Wheeler added.



Graham Wheeler, CEO Volkswagen Financial Services UK

Showrooms have been re-designed, with comfortable sofas and large screen TVs introduced to replicate the atmosphere of buying from home. Buyers create their own personalised "electronic brochure", using a range of apps to select their car's features, check on the trade-in value of their existing vehicle and go through the credit checking process. The results are collated at the dealership and emailed to them for viewing on their choice of device.

The new direction is paying off: while showroom visits have reduced by 50%, retail sales are up by 50%. In addition, over the past year Volkswagen's customer loyalty and retention rate has increased to 47%, meaning almost one in two of existing customers are choosing to renew their contract with the company.

"That shows our customers have responded to our approach, which enables them to dip in and dip out of the digital journey. It's by making it easy for them to access their account, find out about specifications and finance, that we have found a way to compete with the newcomers into the market," Wheeler concluded.

Case Study Two: Carvana—disrupting the auto finance industry?

Start-up companies have spotted the opportunities in the auto finance market and are using digital technology to create compelling alternatives to traditional methods of buying and financing cars. In the US, new contenders include Carvana and Beepi, both of which are seeking to capitalise on purchasers' increasing willingness to handle the whole transaction online.

Carvana provides a website where customers can quickly browse, search and buy used vehicles online. Unlike some other used car platforms, Carvana has a vertically integrated business model for buying, reconditioning, and financing auto sales to its customers. Instead of just creating a pure marketplace of buyers and sellers, Carvana purchases pre-owned automobiles direct from consumers, fleets and auctions, and makes them available for sale, an approach which gives it greater control over both availability and pricing. It delivers the car to the purchaser's door, complete with a 100 day warranty.

Backed by DriveTime, which has a nationwide network of used car dealerships and service facilities, Carvana has raised \$50 million in initial funding.



The Carvana website

Beepi is another online-only used car retailer which has recently raised another \$300 million in venture capital to fund its expansion across the US. The company only handles models that are less than six years old, have fewer than 60,000 miles and have never been in accident. Technicians at its California distribution centre perform a 185-point inspection to ensure the cars are in good condition before they are shipped to buyers who have made their choice online. Purchasers are given ten days to return the vehicle if it does not meet their needs.

Beepi founder Owen Savir said: "People nowadays are used to buying things online. They are used to transacting with Amazon, they are used to transacting with others and so buying a car online is the next logical step."

New entrants like these have replaced the traditional dealer showroom with online videos of cars for purchase, apps which provide instant finance quotes and a digital experience which fits comfortably with the needs of the digital generation.

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