



Innovation Insight

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The impact of emerging technologies on Financial Institutions

Recent trends



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This report contains a selected number of references to selected recent trends and news articles published mainly **circa October/Mid November 2018**, pertaining to the impact of emerging technologies on financial institutions.

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The impact of emerging technologies on Financial Institutions: Recent trends

Quicklinks

- Analytics and big data
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Executive Summary

Disruptive technological innovations not only spawn new companies and industries, but also render laggard companies and entire industries obsolete. A range of emerging technologies continue to impact on a number of sectors in the financial industry, including banking, insurance, risk management, investment, payments and asset management. The dynamics of technological change present strategic risks to companies in this sector, in that they create new opportunities for those that seize them but also threats for those that don't.

Recent reports highlight the impact of analytics and big data, artificial intelligence (AI) and machine learning, in particular, in the financial industry. Blockchain, robotics, the internet of things (IoT), augmented reality (AR), virtual reality (VR) and other emerging technologies are also contributing to the disruption of the sector. Typically, the disruption results from one or more technologies interacting with one another, creating new business models. New fintech and insurtech companies typically exploit emerging technologies to gain competitive edges. It is also interesting to note the number of business incubators which are particularly focused on the financial industry; as is the interest of companies from other sectors, specifically global tech companies.

Blockchain technologies underpin cryptocurrencies, but are increasingly also being used in other trust-related application such as smart contracts, authentication and identification - the latter in conjunction with developments in biometrics. Together with advances in mobile technologies, blockchain is also fuelling innovations in electronic and cashless payments.

This trend is also manifested in changing customer demands and experience. It is often linked to generational (Baby boomers, Gen X, Millennial and Gen Z) preferences, such as a tendency (if not demand for) a "mobile-first service, real-time on demand" service. There is an increasing use of virtual customer interfaces, such as chatbots. This in return requires more sophisticated artificial intelligence, authentication, voice recognition, biometrics as well as robotics.

Cybersecurity is a high priority for all business, but particularly so for financial institutions. The rapid evolvement of digital customer engagement is putting significant pressure on institutions' ability to protect customer data and privacy and the prevention of cyber fraud and identity theft.

In addition to recognising the shifts in customer demands, it also important to note the changes in the world of work that emerging technologies will bring – including in the financial sector. Institutions need to account for this in the assessment of their future skills requirements, recruitment and training; as well as their organisational structures and management models.

Analytics, big data and business intelligence

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- **4 imperatives for making business Intelligence work**

(Source: O'Reilly, Oct 2018) *[Return comment]*

“Results-based leaders rely on having the right information at the right time in order to support operational decision-making. That’s why decision-makers consider business Intelligence their top technology priority.”

- **5 ways your data strategy can fail**

(Source: Harvard Business Review, 11 Oct 2018) *[Return comment]*

“There are plenty of great ideas and techniques in the data space: from analytics to machine learning to data-driven decision making to improving data quality. Some of these ideas that have been around for a long time and are fully vetted, proving themselves again and again. Others have enjoyed wide socialization in the business, popular, and technical press”

- **Big data eases the burden of small forex traders**

(Source: Smart Data Collective, 7 Oct 2018) *[Return comment]*

- **Big data helps large firms grow even bigger**

(Source: Phys) *[Return comment]*

- **Big data is causing a surge of data breaches**

(Source: Smart Data Collective, 10 Oct 2018) *[Return comment]*

“Data breaches can happen at multiple levels. Among a recent surge of data breaches, the ones with the greatest publicity are usually those affecting prominent websites or online services, as shown by the recent data breach scandals affecting Facebook and Dropbox. The record for the greatest data breach in history seems to be held by Yahoo – in 2013-2014, about three billion accounts were affected”

- **Big data processing techniques to streamline analytics**

(Source: Search CIO, Oct 2018) *[Return comment]*

“Data is often referred to as the new oil -- the fuel that drives our industries and creates new billionaires. But data has several advantages over oil because it's cheap, easy to transport, infinitely durable and reusable. Data also has far more applications, and its profitability explains why Uber's market value is higher than traditional carmakers and why Airbnb gets more clients every month than Hyatt”

- **Building an analytics-centric organization**

(Source: Forbes, 17 Oct 2018) *[Return comment]*

- **Building an effective analytics organization**

(Source: McKinsey, 19 Oct 2018) *[Return comment]*

“To maximize the potential of advanced analytics, banks and payments providers need to design an organizational structure that supports the mission. As companies recognize the predictive power of advanced analytics, many are hoping to use advanced analytics to drive their business decisions and strategies.”

- **Data management for analytics: Best practices and examples**

(Source: SAS, 9 Oct 2018) *[Return comment]*

- **Emerging technologies are banding together to accelerate big data's growth**

(Source: ReadWrite, Oct 2018) *[Return comment]*

“Thanks to the growth of the internet, the rate at which new information is being released is growing exponentially. Accelerating big data between machines. We are in an age when communication is not just between human beings.”

- **Good data governance is good business**

(Source: Computer Weekly, Oct 2018) *[Return comment]*

“Trust is the real currency of the digital economy. In the wake of massive data breaches at companies like Facebook and Equifax and in the light of regulations such as the GDPR [General Data Protection Regulation] or open banking, we are at a crossroads around three points of tension”

- **How data literate is your organization?**

(Source: Forbes, 26 Oct 2018) *[Return comment]*

“The data science skills gap is something I’ve touched on a number of times over the years, not least because so many organizations highlight it as a major barrier to their digital transformation efforts.”

- **How real-time data has forever changed the role of IT**

(Source: Forbes, Oct 2018) *[Return comment]*

“Think about how many times you’ve physically paid a visit to the bank, post office or retail store in the past month. The number is probably significantly lower than it was just five years ago. Thanks to the widespread digitization of nearly everything, you can accomplish so much from the comfort of your chosen device.”

- **How to make sure you’re not using data just to justify decisions you’ve already made**

(Source: Harvard Business Review, 25 Oct 2018) *[Return comment]*

“How can an organization tell whether it’s actually letting data inform its decision making — or if it’s merely using superficial analyses to retroactively justify decisions it has already made? Traditionally, organizations have used data analytics as a tool of retrospection, as a means of answering questions like, “Did this marketing campaign reach our desired audience?”

- **Manifest survey highlights benefits of big data for financial apps**

(Source: Smart Data Collective, 18 Oct 2018) *[Return comment]*

“Big data has played a crucial role in the financial industry. There are also lots of benefits of big data for financial apps. Manifest is one of the organizations that has used big data for adding more value to its customers.”

- **Merging predictive analytics models and WAF for top-tier security**

(Source: Smart Data Collective, 23 Oct 2018) *[Return comment]*

“Predictive analytics is changing every facet of the business world. While most of the emphasis has been on identifying market opportunities, predictive analytics is also essential for boosting security.”

- **Overcoming the hype around predictive analytics for better business outcomes**

(Source: CIO, 10 Oct 2018) *[Return comment]*

“There’s no question that machine learning and predictive analytics have entered the public consciousness. A few things made this possible. For starters, compute power has gotten much faster and more economical, and data transfer speed and storage costs improved dramatically, all of which have enabled artificial intelligence (AI) algorithms to scale up to the highly glorified big data. But, enterprises should be wary of buzzwords and the cure-all promises of artificial intelligence before they jump in. Although business leaders may have a good sense of the outcomes they desire, many lack knowledge of what it takes to get there, like differences in data sources and types, and the nuances of different types of machine-learning models”

- **Simplifying analytics with big data as a service**

(Source: CIO, 10 Oct 2018) *[Return comment]*

“There’s no question that machine learning and predictive analytics have entered the public consciousness. A few things made this possible. For starters, compute power has gotten much faster and more economical, and data transfer speed and storage costs improved dramatically, all of which have enabled artificial intelligence (AI) algorithms to scale up to the highly glorified big data. But, enterprises should be wary of buzzwords and the cure-all promises of artificial intelligence before they jump in”

- **Smarter analytics for big data in banking**

(Source: McKinsey, Sep 2018) *[Return comment]*

“Banks have a strong foundation in using data. New research reveals how they can get even more from their analytics investments. Advanced analytics is enabling superior performance in organizations willing to make the proper commitment: across all industries, companies that are more analytically driven realize financial growth three times higher than their less analytical competitors”

- **The big problem of small data: A new approach**

(Source: Science Daily, 18 Oct 2018) *[Return comment]*

“Researchers have crafted a modern approach that could solve a decades-old problem in statistics”

- **The future of data processing has arrived**

(Source: Business Insider, Oct 2018) *[Return comment]*

“What do a university, a commercial mechanic, and a pharmaceutical company have in common? They are all tech firms. It’s the nature of today’s business world that all companies are tech companies, and there isn’t an industry left that doesn’t dabble in data.”

- **Using advanced analytics for fraud management**

(Source: McKinsey) *[Return comment]*

- **Where analytics and machine learning meet**

(Source: CMS Wire, 25 Oct 2018) *[Return comment]*

“Take a dive into any discussion about predictive analytics, and it is likely that you will find the terms machine learning and analytics interchanged regularly. It is understandable given that both are related, but they are not the same thing.”

- **Who should own data analytics in your company and why**

(Source: Dataconomy, 12 Sep 2018) *[Return comment]*

“Data management strategies have undergone a significant change over the last decade. A decade ago the responsibility of data management laid with the IT department, while data analytics were performed in other departments individually based on the needs. Now, we are seeing a significant shift towards a more centralized approach to data management and analytics. Much of the change can be attributed to the rise of predictive analytics that has made leveraging data and extracting insights, which have a significant impact on things like revenue and customer retention, much easier”

- **Why data science at banks is missing the mark, and how to fix it**

(Source: IBM Big Data Hub, 15 Oct 2018) *[Return comment]*

“The business that gets there first won’t necessarily win digital and AI game. It will be the one that ingrains digital and artificial intelligence in its business as much as possible. Starting from applying intelligent data science where it matters most and progressively using it in every aspect of the business.”

Artificial Intelligence (AI) and machine learning

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- **5 artificial intelligence predictions investors need to know**

(Source: Motley Fool) *[Return comment]*

- **Artificial intelligence and big data: Two major parts of the digital future**

(Source: Hacker Noon) *[Return comment]*

- **Artificial intelligence and machine learning spell radical changes for traders, asset management, banking and finance**

(Source: Business Times, 22 Oct 2018) *[Return comment]*

“Artificial intelligence and machine learning are set to shake up traders’ jobs by enabling them to generate their own alpha, boosting fund managers’ returns in today’s asset management industry, currently under pressure to justify fees with outperformance.”

- **Artificial intelligence driving nearly all emerging technology, Gartner says**

(Source: Wall Street Journal, Oct 2018) *[Return comment]*

“Artificial intelligence soon will enable nearly all emerging technologies, according to Gartner’s Research Vice President it is expected that 80% of emerging technologies will have a foundation in artificial intelligence by 2020”

- **Artificial intelligence heralds end of the passport line... and start of a privacy row**

(Source: Ozy, Oct 2018) *[Return comment]*

“Why you should care - because an AI mistake could mean imprisonment for an innocent person or entry for a genuine threat”

- **Artificial intelligence in your wallet: Capital One banks on machine learning**

(Source: Nvidia) *[Return comment]*

- **Automation and artificial intelligence will require a different kind of workforce**

(Source: TLNT, 9 Oct 2018) *[Return comment]*

The future of the workplace is somewhat uncertain. Technological development is advancing at a phenomenal speed, leading to significant and in some cases, exponential change in working environments. Technological advancements that have captured the attention of many organizations are those relating to machine learning and artificial intelligence. This has led to a lot of questions about what workplaces of the future might look like.

- **Deloitte survey looks at the biggest risks of artificial intelligence**

(Source: Business Insider, 23 Oct 2018) *[Return comment]*

“Most companies that are early users of artificial intelligence have one big concern about the technology — cybersecurity. That’s not an idle concern; many say their artificial intelligence systems have already been breached, according to a new study from Deloitte.”

- **How artificial intelligence conversational tech is transforming financial services**

(Source: Venture Beat, 29 Oct 2018) *[Return comment]*

“Financial services companies are investing in voice and chat conversational technologies — but can they really drive engagement and streamline customer communications? Catch up on this VB Live event to learn how Capital One and others are leveraging these technologies to create meaningful customer experiences.”

- **How artificial intelligence is changing the way you work**

(Source: Fortune, 22 Oct 2018) *[Return comment]*

“Getting us all to speak the same language ever since the golden age of the original Doctor Who and Star Trek, science fiction has highlighted devices that can automatically translate languages so that humans can talk to aliens without needing to study far-out dialects.”

- **How artificial intelligence is shaking up banking and Wall Street**

(Source: Fortune, 22 Oct 2018) *[Return comment]*

“Meet your new robot mortgage lender. One theory has arisen in the decade since the subprime mortgage crisis: Machines may be better than humans at giving out home loans. A new Fannie Mae survey of mortgage lenders found that 40% of mortgage banks have deployed AI—using it to automate the document-heavy application process, detect fraud, and predict a borrower’s likelihood of default.”

- **Munich Re: How data and artificial intelligence reduce risk from global calamities**

(Source: Forbes, 4 Nov 2018) *[Return comment]*

“Technology is at its most impactful when it is applied to addressing big problems. Perhaps there are no bigger problems than the occurrence of calamities, whether in the form of natural disasters, epidemics, or other catastrophic events.”

- **The artificial intelligence revolution is underway**

(Source: IT Proportal, 18 Oct 2018) *[Return comment]*

“Artificial intelligence is seemingly everywhere these days, from Siri on an iPhone to calling an Uber or watching that video recommended on Netflix based on predictive algorithms. While artificial intelligence hasn’t quite taken over just yet, it’s clear that it will become even more deeply embedded in our lives.”

- **The four waves of artificial intelligence**

(Source: Fortune, 22 Oct 2018) *[Return comment]*

“The term ‘artificial intelligence’ was coined in 1956, at a historic conference at Dartmouth, but it has been only in the past 10 years, for the most part, that we’ve seen the first truly substantive glimpses of its power and application.”

- **The future of digital banking: Artificial intelligence-driven smart user journeys**

(Source: Trend in Tech) *[Return comment]*

- **Three ways to implement artificial intelligence for business**

(Source: Tim O’Elliott, 25 May 2018) *[Return comment]*

“Rivers of digital ink have been spilled on the new opportunities of artificial intelligence and machine learning. A lot of the coverage has been thought-provoking pieces on the long-term possibilities for ‘cognitive computing’, which allows computers to reason and simulate human thought processes.”

Asset management

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- **Digital asset management bots**

(Source: Trend Hunter) *[Return comment]*

- **Global asset management 2018: The digital metamorphosis**

(Source: Boston Consulting Group) *[Return comment]*

- **How big data, artificial intelligence and blockchain will shape the future of asset management**

(Source: BNB Times) *[Return comment]*

- **Why the future of asset management is digital**

(Source: Business-2-Community, 23 Oct 2018) *[Return comment]*

“2017 was a banner year for the global asset management industry. A strong bull market sparked massive inflows and tremendous profitability. In North America alone, for example, assets under management increased 13% to \$37.4 trillion, fueled in large part by a 14% surge in the United States.”

Blockchain and cryptocurrencies

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- **7 ways blockchain is disrupting every industry on earth**

(Source: Smart Data Collective, 18 Oct 2018) *[Return comment]*

“In 2008, Satoshi Nakamoto, the alias of the person who created Bitcoin, announced the launch of the world’s first digital currency. Nakamoto believed that the invention would have a strong impact on the future of the financial industry.”

- **A look at the vital role blockchain is playing in banking the unbanked**

(Source: TechRadar) *[Return comment]*

- **Africa's blockchain potential untapped, but how can it be implemented?**

(Source: Forbes, 23 Oct 2018) *[Return comment]*

“One needs to look back at why, and when, Bitcoin and blockchain came into being. It was 2008, post the latest global financial crisis, and there was a feeling that a better system would be needed. One where banks are not fully in control.”

- **After A\$700,000 in research, Australian digital transformation agency determines blockchain not yet outperforming existing technology**

(Source: Crowdfund Insider, 25 Oct 2018) *[Return comment]*

“After spending \$700,000 Australian dollars investigating the industrial potential of blockchain, Australia’s Digital Transformation Agency (DTA) has determined that current versions of the tech are “interesting” but in no way better than other systems”

- **Barclays stop their crypto trading project**

(Source: Blokt, 17 Oct 2018) *[Return comment]*

“Barclays, a British multinational investment bank, recently halted an internal cryptocurrency trading project. While it’s uncertain why Barclays stopped the project the bearish cryptocurrency market may have been a large factor that influenced the investment bank’s decision.”

- **Blockchain easy-button alert: Say hello to automated security audits**

(Source: Silicon Angle, 19 Oct 2018) *[Return comment]*

“The goal is to basically make it very easy for developers to understand the state and health of the smart contract, and then they can go find consultants and experts to fix those vulnerabilities and issues”

- **Blockchain grows up as bankers take the place of 'crypto cowboys'**

(Source: The Street) *[Return comment]*

- **Blockchain interoperability: A necessity for effective adoption**

(Source: Coin Speaker) *[Return comment]*

- **Blockchain is how we can protect our privacy in a world of ubiquitous surveillance**

(Source: Entrepreneur) *[Return comment]*

- **Blockchain launches a hardware wallet called Lockbox**

(Source: Coin Dais, 26 Oct 2018) *[Return comment]*

“Cryptocurrency software provider Blockchain has announced the launch of a custom hardware wallet called Lockbox, that is exclusively tethered to the company’s flagship wallet. According to the development team behind the new hardware wallet, the firm collaborated with the wallet manufacturer Ledger in order to create the design.”

- **Blockchain to generate more than \$10.6B in revenue by 2023**

(Source: Computer World, 18 Oct 2018) *[Return comment]*

“Driven mainly by financial technology (fintech) investments, blockchain has seen a fast uptick in adoption for application development and pilot tests in a number of industries and will generate more than \$10.6 billion in revenue by 2023”

- **Blockchain: What is it, and why does it matter?**

(Source: CNN, 6 Oct 2018) *[Return comment]*

“A-list companies like Amazon, Facebook, IBM, and Walmart believe blockchain technology can track shipments, store data more efficiently, and do many other helpful things. They aren’t alone in embracing the technology, which many people believe could revolutionize logistics, food safety, banking, and even voting”

- **China’s major blockchain consortium launches revolutionary coinless blockchain platform**

(Source: Coin Speaker, 24 Oct 2018) *[Return comment]*

“As it has been revealed, the Chinese Financial Blockchain Shenzhen Consortium (also known as FISCO) that is led by tech giant Tencent, multinational telecommunication company Huawei, WeBank and Shenzhen Securities Communication, is ready to present its innovative development.”

- **Crypterium allows anyone to send crypto directly via bank transfers to traditional accounts**

(Source: Crowdfund Insider, 28 Oct 2018) *[Return comment]*

“Crypterium has announced that as of last week 400,000 users will be given the opportunity to test paying their loans directly via cryptocurrency. Crypterium is already allowing consumers in Australia to transfer crypto and deposit into bank accounts with a partnership with BPAY.”

- **Cryptoassets explained: GoChain**

(Source: Seeking Alpha, 28 Oct 2018) *[Return comment]*

“GoChain is a permission-based blockchain project based on Ethereum. They aim to do away with mining, and instead place 50 large businesses from 50 countries as validators using their reputation to ensure trust.”

- **Cryptocurrencies could be the next revolution in online payments**

(Source: Reuters, 29 Oct 2018) *[Return comment]*

“The ramifications of blockchain might yet be unknown but the implications of the technology are immense for the financial services industry, with many blockchain applications challenging the status quo of global payments.”

- **Bitcoin adoption could be in for a big boost**

(Source: Forbes) *[Return comment]*

“Many Bitcoin skeptics say that Bitcoin cannot work as money, because it fails to be a unit of account. Other Bitcoin naysayers claim that it is impossible to be a currency and a store of value at the same time.”

- **Bitcoin turns 10: Here's what you need to know**

(Source: Gulf News, 23 Oct 2018) *[Return comment]*

“31 October 2008, marked the birth of Bitcoin. Ten years on, the world’s first cryptocurrency is at the forefront of a complex financial system viewed warily by markets and investors. From its first evocation amid a global financial crisis, in a white paper written by Satoshi Nakamoto, an unknown pseudonym, Bitcoin conveyed a political vision.”

- **Bitcoin: Not for the faint-hearted even when it seems so hated**

(Source: Seeking Alpha) *[Return comment]*

- **Circle Invest lets you buy cryptocurrency collections**

(Source: TechCrunch) *[Return comment]*

- **Cryptocurrency is dying**

(Source: The Next Web) *[Return comment]*

- **Demystifying: Cryptocurrency mining threats**

(Source: Cisco, 11 Nov 2018) *[Return comment]*

“How to protect your endpoints from “creepy crypto miners” Here’s what’s creepy about cryptocurrency mining threats. It can lead to the slow death of your computers – capable of literally melting smartphones in some cases – by overworking the CPU beyond its normal capacity.”

- **Explaining Bitcoin and blockchain**

(Source: Global Banking and Finance, 25 Oct 2018) *[Return comment]*

“Bitcoin and Blockchain –most people have heard of both over the last few years, but many are still not quite sure what these are. A little reminiscent of the ‘Internet’, ‘The Cloud’ or even more recently the ‘Internet of Things’, people hear new terms like these and even use them in everyday conversations, but in the background are often quietly confused about what they are or even what they actually do.”

- **Germany's central bank claims success in blockchain settlement trial**

(Source: Coin Desk, 25 Oct 2018) *[Return comment]*

“Deutsche Bundesbank, Germany’s central bank, and Deutsche Börse, owner of the Frankfurt Stock Exchange, have completed a blockchain trial investigating the technology’s potential in securities settlement.”

- **How a Ugandan prince and a crypto startup are planning an African revolution**

(Source: TechCrunch) *[Return comment]*

- **How blockchain actually disrupts industries**

(Source: AMB Crypto) *[Return comment]*

- **How blockchain stands to transform the luxury economy with digital assets**

(Source: Coin Speaker) *[Return comment]*

- **How new database innovations multiply blockchain use**

(Source: Smart Data Collective) *[Return comment]*

- **If Bitcoin continues to take so much energy 'it will kill the planet'**

(Source: Independent, 29 Oct 2018) *[Return comment]*

“If Bitcoin continues to take so much energy ‘it will kill the planet’ Bitcoin, the world’s most popular digital cryptocurrency, is celebrating its 10th birthday. It is also the subject of a new research paper that claims Bitcoin could become the worst contributor to climate change on the planet.”

- **Japan just gave its cryptocurrency industry legal power to police itself**

(Source: MIT Technology Review) *[Return comment]*

“The cryptocurrency scene is evolving too quickly for policymakers to keep up. That’s the rationale behind a move by Japan—already arguably the most advanced nation in the world when it comes to cryptocurrency regulation—to officially let industry create and enforce its own rules.”

- **Meet the woman using Bitcoin technology to transform the food industry**

(Source: Modern Farmer) *[Return comment]*

- **Mining Bitcoin is 3 times more expensive than mining gold, research paper finds**

(Source: Market Watch, 6 Nov 2018) *[Return comment]*

“The amount of energy required to mine bitcoin, or digital gold as some proponents like to call it, is considerably higher than that of physical gold. Researchers found that the cost to mine \$1 worth of bitcoin BTCUSD,) - 24% is more than three times the cost to mine \$1 of gold and other precious metals.”

- **Over 100,000 ATMs now let you buy Bitcoin with a debit card in the US**

(Source: Mr Top Step, Oct 2018) *[Return comment]*

“Debit card Bitcoin purchase via regular ATMs are now a reality in the United States. This development foregrounds the recent partnership between Genmega and LibertyX. The collaboration allows people to buy Bitcoin from numerous cash machines using their debit cards.”

- **Police to get Bitcoin training amid money-laundering worries**

(Source: Telegraph) *[Return comment]*

- **Senate struggles to understand Bitcoin**

(Source: Blokt) *[Return comment]*

- **Smart contract business underpinning**
(Source: Clean Technica, 13 Oct 2018) *[Return comment]*
Blockchain report excerpt
- **South Africa's Centbee launches Bitcoin cash wallet app in beta**
(Source: lol, Oct 2018) *[Return comment]*
“South African-based merchant payment system and Fintech firm Centbee has announced that its Bitcoin Cash Wallet app is now in beta. While the alpha testing made use of Testnet coins, the beta version of the Centbee Wallet uses real Bitcoin Cash.”
- **The biggest crypto owners in the world by nation**
(Source: Reddit, Oct 2018) *[Return comment]*
- **The state of blockchain: 11 stats**
(Source: Enterprisers Project, Oct 2018) *[Return comment]*
“Whether you’re a blockchain bull, bear, or somewhere in between, there are numbers out there to back up your point of view. On the bullish side, analysts expect enormous, multi-billion-dollar growth of the global blockchain technology market.”
- **Top UK security firm to offer vaulted cryptocurrency storage**
(Source: The Next Web, 18 Oct 2018) *[Return comment]*
“With over \$1 billion worth of cryptocurrency being stolen since 2017, British security services firm G4S is taking it upon itself to try and make the wild west of cryptocurrency a little less wild. The FTSE 250 listed firm is perhaps best known for providing security personnel, prisoner transport, and high-value money transport in around 90 countries.”
- **UK blockchain startups, who are you?**
(Source: Computer Weekly) *[Return comment]*
- **Understanding how blockchain works**
(Source: Fleet Owner, Oct 2018) *[Return comment]*
“Blockchain is a decentralized, distributed digital ledger that cannot be altered retroactively. It could change the transportation industry. Lately there is been a great deal of media buzz around blockchain.”
- **What CFOs need to know about blockchain — and trust**
(Source: Financialexecutives, 24 Oct 2018) *[Return comment]*
“Many finance executives say a lack of trust among users is the number-one barrier to blockchain adoption”
- **What is a Bitcoin EFT: Complete beginner's guide**
(Source: Blockonomi, Oct 2018) *[Return comment]*
“Exchange traded funds (ETFs) are investment vehicles that allow would-be investors to dip their toe into a given market without the attendant risk of buying the asset itself. These so-called ETFs are classified by the US”
- **Why governments are afraid of Bitcoin**
(Source: Investopedia) *[Return comment]*

Customer experience

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- **10 examples of customer experience innovation in banking**
(Source: Forbes) *[Return comment]*
- **America's 10 best banks for customer service**
(Source: Investopedia, 28 Oct 2018) *[Return comment]*
“When investing in the retail banking sector, there is a useful metric to follow that cannot be found on any list of fundamental indicators: customer satisfaction”
- **Banks and why customers don't trust them: Deloitte report**
(Source: ABC News, 29 Oct 2018) *[Return comment]*
“Australian customers have a very low opinion of banks when it comes to how trustworthy they are — particularly in light of scandals unearthed by the banking royal commission this year. While 36% of customers thought their bank had their best interests at heart, only 21% thought this of banks in general”

- **Barclays' mobile app down as glitch leaves customers locked out of accounts**
(Source: The Sun) *[Return comment]*
- **Innovate before your customers want you to die**
(Source: Innovation Excellence) *[Return comment]*
- **There's no excuse for ignoring the unbanked, big banks' own data shows**
(Source: American Banker, 5 Nov 2018) *[Return comment]*
"When community advocates ask banks to provide accounts for the estimated 63 million people in the U.S. who are unbanked, bankers typically raised two concerns. One is that this population is unsophisticated and will soak up expensive branch and call center resources."
- **Transforming a customer experience in banking**
(Source: McKinsey) *[Return comment]*
- **TSB loses 16,000 customers after IT meltdown**
(Source: BBC, 24 Oct 2018) *[Return comment]*
"More than 16,000 customers have deserted the TSB bank in the wake of an IT meltdown earlier this year. The show the net loss in accounts between April and June. As many as 1.9 million people were left unable to access their own money in April 2018, after the bank tried to introduce a new computer system"
- **UK retailers risk financial and reputational damage by failing to respond to customer complaints on social media**
(Source: Retail Times) *[Return comment]*

Cybersecurity

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- **95% of companies report cybersecurity culture disconnect**
(Source: CIO Dive, 26 Oct 2018) *[Return comment]*
"About 95% of organizations believe there is a minor or significant gap between their current and desired cybersecurity culture, according to ISACA's Cybersecurity Culture survey of about 4,800 international business and technology professionals. About 80% of organizations are currently undergoing employee training and communicating behavioral policies to improve their cyber culture. Obtaining cybersecurity certifications for cyber professionals is less of an immediate priority"
- **Artificial intelligence and cybersecurity shape the CIO agenda for 2019 as IT budgets rise**
(Source: Tech Republic, 19 Oct 2018) *[Return comment]*
"Companies are scaling digital transformation projects, but privacy remains a top concern, according to a Gartner report"
- **Artificial intelligence is no silver bullet for cyber security**
(Source: Computer Weekly) *[Return comment]*
- **Breaking bank security: Record theft rises to new heights**
(Source: ZD Net) *[Return comment]*
- **Cryptomining replaces ransomware as 2018's top cybersecurity threat**
(Source: Tech Republic) *[Return comment]*
- **Cyber security readiness requires top to bottom commitment**
(Source: Facility Executive, 25 Oct 2018) *[Return comment]*
- **How big of a role will artificial intelligence have in cybersecurity over the next decade?**
(Source: Forbes, Oct 2018) *[Return comment]*
"How big of a role do you see artificial intelligence having in the cyber security industry in the next 5 to 10 years?"
- **How to make your business cyber resilient**
(Source: Telegraph) *[Return comment]*
- **Mitigating third-party cyber risks in a new regulatory environment**
(Source: Computer Weekly, 25 Oct 2018) *[Return comment]*
"The headlines are full of data breaches. A report in October 2018 from the UK National Cyber Security Centre revealed that the GCHQ offshoot had stopped almost 1,200 attacks in the past two years and is fighting off around 10 attacks every week."

- **Modern-day bank robbing: How hackers are becoming public enemy number one**
(Source: CIO Dive) *[Return comment]*
- **State of Cyber Resilience Index 2018**
(Source: Accenture, 10 Apr 2018) *[Return comment]*
“Organizations are gaining ground on the damaging impact of targeted cyber attacks, proving that recent security investments are paying off. Despite the number of targeted cyber attacks doubling in the last year, companies are improving cyber resilience and demonstrating they can perform better under pressure.”
- **SVB on omnichannel security**
(Source: Pymnts) *[Return comment]*
- **Tesco bank fined £16m over 2016 data breach**
(Source: IT Proportal) *[Return comment]*
- **The 5 biggest cybersecurity threats of 2019 revealed**
(Source: Make use of) *[Return comment]*
- **The holy grail of data security: How homomorphic encryption could stop future data breaches**
(Source: CB Insights) *[Return comment]*
- **The potential costs of cybercrime that can't be calculated**
(Source: CSO Online, Sep 2018) *[Return comment]*
“Analysis of the cost of cyberattacks often comes with a price tag attached. Reports highlighting the average and cumulative costs of data breaches indicate that the figures can be staggering. A Juniper Research report that asserts the global cost of breaches could exceed \$2 trillion by next year.”
- **The world is embracing digital currency, and the US is falling behind**
(Source: CNN) *[Return comment]*
- **Top banks in cyber-attack ‘war game’**
(Source: BBC, 9 Nov 2018) *[Return comment]*
“The Bank of England is testing the UK’s ability to withstand a major cyber-attack on financial institutions. Some 40 firms, including leading banks, are taking part in a one-day “war-gaming” exercise designed to assess their resilience”
- **Websites are attacked 58 times a day, even when patched properly**
(Source: Tech Republic) *[Return comment]*
- **Why digital transformation puts you at greater risk for cyberattacks**
(Source: Tech Republic, 18 Oct 2018) *[Return comment]*
“Digital transformations could expose your organization to a greater risk of costly cyberattacks. A study surveyed 1,300 companies and found that those whose digital transformations surpass their cybersecurity practices are likely to see a loss of \$1 million or more”

Digital disruption and innovation

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- **3 great ways to sabotage your digital transformation**
(Source: Information Week, 26 Oct 2018) *[Return comment]*
“Hint: They all have to do with how you treat your developers. Digital transformation is all the rage, and with good reason. Markets are rapidly being disrupted by digital value propositions that change the rules of competition.”
- **4 principles of digital transformation**
(Source: Digital Tonto) *[Return comment]*
- **7 disruptions CIOs may not see coming: Gartner**
(Source: CIO, 18 Oct 2018) *[Return comment]*
“CIOs may not be prepared for seven digital disruptions, including quantum computing, swarm technology and nanotechnology, according to Gartner’s latest research. The other technologies rounding out the list include real-time language translation, human machine interfaces, smart phone disintermediation, and software distribution revolution.”
- **8 mistakes executives make when digitizing their business**
(Source: World Economic Forum) *[Return comment]*

- **A guide for designing a successful corporate transformation**
(Source: PWC StrategyBusiness, 26 Oct 2018) *[Return comment]*
- **Banks sign up to Prince William’s mission to disrupt illegal wildlife trade**
(Source: Banbury Cake) *[Return comment]*
- **Disruptive technologies and new business models**
(Source: This Day Live, 18 Oct 2018) *[Return comment]*
“Emerging technologies such as the Internet of Things, artificial intelligence, machine learning, among others are transforming economic structures and business models. The migration from analogue to digital technology, occasioned by the evolution of emerging technologies, is one big thing that has transformed businesses and economies globally and within Nigeria”
- **Corporate culture: The unexpected component for digital transformation**
(Source: CIO Dive, 15 Oct 2018) *[Return comment]*
“Companies launch digital transformations for varying reasons, whether that’s providing better customer or employee experiences or to meet demand spikes faster while reducing costs. When companies undertake digital transformations, their competitors need to do the same. They set targets, deploy new technologies, train staff in new procedures, and plan their initial rollouts”
- **Digital banking transformation: Where should you start?**
(Source: The Financial Brand) *[Return comment]*
- **Digital business transformation: How to survive and thrive**
(Source: McKinsey) *[Return comment]*
- **Digital transformation in 2019: Lessons learned the hard way**
(Source: ZD Net) *[Return comment]*
- **DoNotPay: Launches ‘sue anyone for free’ and 13 other applications**
(Source: Artificial Lawyer) *[Return comment]*
- **Everything you need to know about what Amazon is doing in financial services**
(Source: CB Insights) *[Return comment]*
- **Five predictions for future finance disruption**
(Source: Disruptive Asia, 19 Oct 2018) *[Return comment]*
“Fintech, blockchain and regulatory changes are driving the finance sector towards a fundamental change. It is not so difficult to predict what will happen so much as when it will happen. History doesn’t repeat itself, but we can get ideas from other industries”
- **Here’s how Vodafone is getting digital transformation right**
(Source: Disruptive Asia, 16 Oct 2018) *[Return comment]*
“The term ‘digital transformation’ is so overused it’s easy to forget the outcomes that operators are trying to achieve when they embark on these programs. Vodafone is an example of one telco that knows exactly what it wants from its digital transformation initiative – and is getting it”
- **How Amazon is disrupting these 6 sectors**
(Source: Barrons) *[Return comment]*
- **How can you be both the disruptor and the disrupted?**
(Source: EY) *[Return comment]*
- **How digital lending is remaking credit, including digital mortgages**
(Source: McKinsey) *[Return comment]*
- **How Industry 4.0 is transforming digital factory operations**
(Source: MIT Technology Review) *[Return comment]*
“Falling behind the next wave of factory innovation is easy – it is are a moving target. This webcast explores today’s digital factory landscape and highlights the gains of adopting Industry 4.0 and Industrial IoT.”
- **How to use cloud computing and big data to support digital transformation**
(Source: ZD Net) *[Return comment]*
- **How can you aspire to lead in the digital economy**
(Source: EY) *[Return comment]*
- **Importance of digital marketing strategy in a new age company**
(Source: Entrepreneur) *[Return comment]*

- **Industry X.0 and the digital reinvention of the industry**
 (Source: Accenture) *[Return comment]*
 “This intensive case study research and economic value modelling reveals six imperatives Industry X.0 businesses must address to become smarter, connected, living and learning. Investing to drive new, hyperpersonalized experiences for customers, via multiple “smart touchpoints,” helping grow core businesses by enhancing customer engagement.”
- **It’s not a digital transformation without a digital culture**
 (Source: Boston Consulting Group) *[Return comment]*
- **Kenya and Vietnam can teach us about digital banking**
 (Source: CNN, 25 Oct 2018) *[Return comment]*
- **Legacy firms fighting disruption with data**
 (Source: Disruption Hub, 18 Oct 2018) *[Return comment]*
 “Established businesses have not had the easiest of rides when it comes to digital disruption. Many long standing companies have been slowed (and in some cases, killed off) by restrictive red tape and a reluctance to take risks. Others have taken a far different approach, and continue to dominate their respective industries”
- **Product development for the digital economy**
 (Source: McKinsey) *[Return comment]*
- **PwC staves off disruption with immersive emerging tech training**
 (Source: TechCrunch, 17 Oct 2018) *[Return comment]*
 “The big accounting firms are under pressure from digital disruption just like every industry these days, but PwC is trying a proactive approach with a digital accelerator program designed to train employees for the next generation of jobs.”
- **Ten lessons for launching a greenfield digital banking business**
 (Source: McKinsey) *[Return comment]*
- **The 10 most dangerous myths about digital disruption**
 (Source: Tech Republic, 18 Oct 2018) *[Return comment]*
 “Digital disruption is the single largest change facing enterprises and technology providers according to Gartner. And any time a new technology comes to market and gains hype and attention, myths arise along with it, which can be dangerous for your business”
- **The cornerstones of large-scale technology transformation**
 (Source: McKinsey) *[Return comment]*
- **The genius of Donotpay: Giving you what is already yours**
 (Source: Artificial Lawyer) *[Return comment]*
- **The lagging impact of technology advances on productivity growth**
 (Source: Wall Street Journal) *[Return comment]*
- **The retail lesson of the last decade: Disrupt or be disrupted**
 (Source: Forbes) *[Return comment]*
- **The top 5 personal technologies that will disrupt digital business**
 (Source: Tech Republic, 25 Oct 2018) *[Return comment]*
 “Personal technologies have impacted enterprise IT departments even before the 1990s, when personal computing became more common”
- **The transition from physical to online banking**
 (Source: Skytech Geek) *[Return comment]*
- **These are the disruptive technologies that will affect your industry**
 (Source: Forbes, 10 Sep 2018) *[Return comment]*
 “Disruption is a hard subject to cover sometimes. The change, the intersections, the arguments about what is and is not disruption. Often it is helpful to step back and really see what is happening, where things are going and who is doing what.”
- **This is what disruption looks like: The coming shakeout in transaction banking**
 (Source: Seeking Alpha) *[Return comment]*

- **Wells Fargo: Banks entering a legal quagmire in the name of technology**
(Source: ZD Net, 24 Oct 2018) *[Return comment]*
“The application of emerging technologies such as machine learning, artificial intelligence, and robotics in the financial services industry makes perfect sense, especially when it comes to automating simple tasks. While automating the entire decision-making process may be many years away, Wells Fargo’s Financial Institutions Group is concerned that the laws in place are preventing a lot of organisations from implementing the technology required to lay the groundwork”
- **What is digital transformation, digitalization, and digitization**
(Source: Medium) *[Return comment]*
- **What’s your digital business model?**
(Source: CIO) *[Return comment]*

Fintechs

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- **Chase and Tatra Banka add digital services to compete with fintechs**
(Source: Business Insider) *[Return comment]*
- **Deloitte and Innovate finance publish report on UK FCA fintech sandbox**
(Source: Crowdfund Insider) *[Return comment]*
- **Fear of fintech: 5 misconceptions keeping you from the future of finance**
(Source: TechRadar) *[Return comment]*
- **Fintech: Artificial Intelligence (AI) powers financial services to improve people's lives**
(Source: CACM, Nov 2018) *[Return comment]*
- **Fintech disruptor taking 'swipes' at Brazilian banking sector**
(Source: Seeking Alpha, 26 Oct 2018) *[Return comment]*
“PagSeguro provides financial technology solutions to micro, small, and medium-sized companies in Brazil. The company recently IPO’d in January 2018.”
- **Fintech forcing major shifts in banking strategies**
(Source: Business Insider) *[Return comment]*
- **Fintech: It’s time for Africa**
(Source: Gulf News, 28 Oct 2018) *[Return comment]*
- **How fintechs are empowering banks?**
(Source: Global Banking and Finance, 30 Oct 2018) *[Return comment]*
“Fintech is a combination of the words “financial” with “technology”. It is concerned with delivery of financial products to customers using technology. Fintech could be implemented in any area – banking or insurance or investing.”
- **Know your industries: 100 market maps covering fintech, CPG, auto tech, healthcare and more**
(Source: CB Insights) *[Return comment]*
- **Meet the 11 fintech startups from financial inclusion lab**
(Source: Inc42, 26 Oct 2018) *[Return comment]*
“The initiative will provide the startups with capital, strategic guidance, and market access. The selected startups will also receive guidance to build and test their products. The startups will be using automation, underwriting, and machine learning to improve the financial condition of underserved people”
- **The fintech 250: The top fintech startups of 2018**
(Source: CB Insights, Oct 2018) *[Return comment]*
- **This South African fintech company ranks among the most innovative in the world**
(Source: Business Tech, 30 Oct 2018) *[Return comment]*
“A South African based fintech company features on a global list of companies seen to be transforming the financial services industry – from digital payments and lending, to insurtech, to neo-banking.”
- **Toward a more inclusive fintech industry**
(Source: American Banker) *[Return comment]*

- **What the largest global fintech can teach us about what's next in financial services**

(Source: CB Insights) [\[Return comment\]](#)

Identification, authentication, data security and biometrics [\[Back to Quick links\]](#)

- **3D printers have fingerprints too**

(Source: Knowridge, 19 Oct 2018) [\[Return comment\]](#)

"This discovery could help trace 3D-printed guns. Like fingerprints, no 3D printer is exactly the same. That's the takeaway from a new University at Buffalo-led study that describes what's believed to be the first accurate method for tracing a 3D-printed object to the machine it came from."

- **5 reasons e-signatures are the must-have tool you don't think about**

(Source: Interesting Engineering) [\[Return comment\]](#)

- **A spotlight on GDPR: Is your data centre compliant?**

(Source: The Stack) [\[Return comment\]](#)

- **Aadhaar is what Africa really needs, more than Chinese largesse**

(Source: The Print) [\[Return comment\]](#)

- **Apple adds student ID cards into Apple Wallet to access buildings, buy food and more**

(Source: TechCrunch) [\[Return comment\]](#)

- **Apple Wallet will support college student ID cards on iPhones**

(Source: Mashable) [\[Return comment\]](#)

- **Apple's face ID alone deemed too insecure for European banks**

(Source: Forbes, 11 Oct 2018) [\[Return comment\]](#)

"Next year millions of people across Europe will suddenly find it harder to log in to their mobile bank account. Biometric security, like fingerprints and Apple's Face ID, have long been a staple of frictionless mobile banking, but new European Union payments regulations have deemed biometrics alone too insecure for mobile banking."

- **Building shared digital identity using blockchain technology**

(Source: Helpnet Security, 25 Oct 2018) [\[Return comment\]](#)

"In an ideal future state, every consumer would have a strongly proofed, government-issued digital identity that could be shared with anyone."

- **Digital IDs are more dangerous than you think**

(Source: Wired) [\[Return comment\]](#)

- **Don't only adhere to data privacy laws, go beyond them**

(Source: IT Proportal, 23 Oct 2018) [\[Return comment\]](#)

"Data privacy remains one of the most critical, hotly debated topics of our time. Two of the biggest, most damaging data breaches occurred in just the past couple of years, including the massive 2017 Equifax breach and the 2016 Uber hack which, to make matters even worse, the company concealed for more than a year."

- **ePrivacy: An overview of Europe's other big privacy rule change**

(Source: TechCrunch) [\[Return comment\]](#)

- **Eye-tracking technology tests whether drivers are too tired to drive**

(Source: The New Daily, 18 Oct 2018) [\[Return comment\]](#)

"Drug and alcohol testing might be the norm for road users, but new eye-tracking technology could soon be used to determine whether drivers are too tired to get behind the wheel"

- **Facial recognition tech to verify age for alcohol sales in UK supermarkets**

(Source: ZD Net, 18 Oct 2018) [\[Return comment\]](#)

"Fraudsters have now resorted to fake banking apps, to steal data from gullible users. And they are doing this with some fair amount of success as well. As per a recent report by IT Security firm, as many as 160,000 users may have been impacted by this new fraud. UK supermarkets are reportedly going to adopt facial recognition technology at self-checkouts to verify the age of customers buying products. The pilot scheme will be rolled out in checkout areas in which customers serve themselves by the end of the year."

- **Faster payments call for faster authentication**
(Source: Pymnts) *[Return comment]*
- **Four critical questions for new data privacy officers**
(Source: Forbes, Oct 2018) *[Return comment]*
“The data privacy officer (DPO) — a mandatory appointment under article 37 of the General Data Protection Requirement (GDPR) regulations — is akin to the role of a diplomat. The DPO must understand and navigate all stakeholders (customers, the business and the regulatory environment and market) to gather, leverage and share information in a manner that is appropriate, legal and beneficial to all sides.”
- **Four puzzling issues of identity authentication in the digital era**
(Source: Value Walk) *[Return comment]*
- **GDPR is leading to more second-party data deals**
(Source: Digiday) *[Return comment]*
- **Google’s plans for first wired urban community raise data-privacy concerns**
(Source: Seattle Times) *[Return comment]*
- **How improving identity authentication optimizes customer experiences**
(Source: PSFK) *[Return comment]*
- **Improve your digital hygiene to reduce your risk of identity theft**
(Source: Tripwire) *[Return comment]*
- **Microsoft creating a blockchain-based platform for storing identity**
(Source: Koin Alert) *[Return comment]*
- **New tool uses your smartphone camera to track your alertness at work**
(Source: Science Daily, 18 Oct 2018) *[Return comment]*
“Our level of alertness rises and falls over the course of a workday, sometimes causing our energy to drop and our minds to wander just as we need to perform important tasks. To help understand these patterns and improve productivity, researchers have developed a tool that tracks alertness by measuring pupil size, captured through a burst of photographs taken every time users unlock their smartphones”
- **Rethinking personal data**
(Source: World Economic Forum) *[Return comment]*
- **Security: After Estonia’s ID-card train wreck this identity app is taking Baltics by storm**
(Source: ZD Net, 22 Oct 2018) *[Return comment]*
“A year ago Estonia was embroiled in its ID card crisis. The hardware behind the ID cards that serve as a cornerstone of the Baltic country’s e-state was found to be vulnerable to attack.”
- **Socure and Alloy offer digital ID verification**
(Source: Pymnts, 24 Oct 2018) *[Return comment]*
“Call it the existential crisis of digital identity (ID) verification. It’s the trade-off between financial institutions easing the consumer’s journey across banking and transactions done online, and the need to prevent fraud during new customer onboarding.”
- **Tesco is tracking your Clubcard data to see how healthy your shopping basket is**
(Source: Wales Online, 18 Oct 2018) *[Return comment]*
“Tesco has analysed the shopping baskets of 16 million Clubcard customers to see just how healthy shoppers are. The supermarket is using the data to track shopping habits, including when and why certain trends might change.”
- **The coming wave of regulation over facial recognition**
(Source: Information Week, 18 Oct 2018) *[Return comment]*
“More applications utilizing facial recognition are inevitable in the public and private sectors, and those will generate plenty of new rules and regulations. Facial recognition is one of the most widely adopted applications of artificial intelligence.”
- **The growing issue of compromised credentials**
(Source: Forbes) *[Return comment]*

- **The problem with using 'super recognisers' to spot criminals in a crowd**
(Source: The Conversation, 18 Oct 2018) *[Return comment]*
“People often say that they never forget a face, but for some people, this claim might actually be true. So-called super recognisers are said to possess exceptional face recognition abilities, often remembering the faces of those they have only briefly encountered or haven't seen for many years.”
- **What's working and what's not in banks' battle against 'credential stuffing'**
(Source: American Banker, 9 Nov 2018) *[Return comment]*
“ ‘Credential stuffing’, in which hackers take stolen usernames and passwords from one site and attempt to use it on another, is becoming a bigger problem for banks. It's the likely culprit behind a hack of HSBC's online banking unit last month, in which less than 1% of users were targeted.”
- **With GDPR complaints rising, UK regulator quietly issued notice of violation**
(Source: CIO Dive) *[Return comment]*
- **World Economic Forum launches shared platform for good digital identity**
(Source: Pata) *[Return comment]*

Innovation

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- **2018 hype cycles: Riding the innovation wave**
(Source: Gartner) *[Return comment]*
- **Beware of these 10 innovation killers**
(Source: Innovation Excellence) *[Return comment]*
- **Designing workplaces that are engineered for innovation**
(Source: Facility Executive, 17 Oct 2018) *[Return comment]*
- **FDIC: Banks must embrace technology and innovation**
(Source: Pymnts, 25 Oct 2018) *[Return comment]*
“The Federal Deposit Insurance Corporation (FDIC) is setting up an office of innovation to encourage banks to adopt financial technology changes. The FDIC Chairman J made the announcement at an American Bankers Association conference in New York, revealing that federal bank regulators need to encourage financial institutions (Fis) to innovate.”
- **Five digital profiles of innovators**
(Source: Innovation Management, 9 Oct 2018) *[Return comment]*
“Innovation is about the future, without it, you lose sight of tomorrow. Innovation is an exceptional, exclusive, and realistic idea that separates you from others without a second thought. Innovation can happen anywhere in the organization and its ecosystem. Digital innovation has a broader spectrum, hybrid nature, and deep context. You have to systematically develop the business competency to execute it successfully, and that is something you do not accomplish overnight. Especially breakthroughs or transformational innovations are not something everyone can accomplish”
- **Innovation in the Fourth Industrial Revolution: To disrupt or be disrupted**
(Source: EIU Perspectives, 7 Aug 2018) *[Return comment]*
“As the Fourth Industrial Revolution unfolds, what innovations are in store? It's inevitable that jobs are going to be impacted as artificial intelligence automates a variety of tasks. However, just as the Internet did 20 years ago, the artificial intelligence revolution is going to transform many jobs—and spawn new kinds of jobs that drive economic growth. One of the main effects of the Fourth Industrial Revolution is increased human productivity. With technologies like AI and automation augmenting our professional lives, we're able to make smart choices, faster than ever before. The scale and breadth of technological innovations is revolutionising the way we do business; begging businesses to ask the question: if I don't take the risk to disrupt, will my business be disrupted?”
- **New technology, new rules: Reimagining the modern finance workforce**
(Source: McKinsey, 2 Nov 2018) *[Return comment]*
“Innovations in technology and management practice are creating new opportunities for the finance function to add value to the business. Here's how finance teams will need to evolve to make the most of them.”
- **The 12 different ways for companies to innovate**
(Source: MIT Sloan Review) *[Return comment]*

- **The 70-20-10 rule for innovation**

(Source: Innovation Excellence) *[Return comment]*

- **The innovation paradox: Getting from evolution to revolution**

(Source: Forbes, 9 Nov 2018) *[Return comment]*

“The technologies that comprise Industry 4.0—from artificial intelligence and IoT to additive manufacturing and robotics—are truly revolutionary. As organizations seek to adopt these transformative technologies within their organizations, the potential for innovation has never been greater.”

- **Why Amazon web services is bringing innovation across the UK**

(Source: TechRadar, 12 Nov 2018) *[Return comment]*

“Amazon’s transition into an infrastructure giant has gone from strength to strength in recent years, as the company Amazon Web Services (AWS) arm becomes one of the most important technology firms in the world.”

Insurance and insurtechs

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- **5 insurance giants working on blockchain solutions**

(Source: CB Insights) *[Return comment]*

- **Affordable health insurance for East Africans via mobile tech**

(Source: Forbes, 26 Oct 2018) *[Return comment]*

“In Tanzania, if you work in the formal sector, your job probably has health insurance. Unfortunately, only about 7% of the population falls into that category. Pretty much everyone else is either a farmer or has a job in the informal sector, perhaps getting paid off the books and definitely not being covered by health insurance.”

- **As digital threats grow, will cyber insurance take off?**

(Source: The Conversation, 26 Oct 2018) *[Return comment]*

“Cyberattacks cost the world more than natural disasters – US\$3 trillion in 2015, a price that may climb to \$6 trillion annually by 2021 if present trends continue. But most people – and even most businesses – don’t have insurance to protect themselves against this rising threat.”

- **Blockchain enables new business models and value creation for insurers**

(Source: Insurance Innovation Reporter, 15 Oct 2018) *[Return comment]*

“The history of platform business models reveals an opportunity for blockchain to support their further evolution, including in the insurance business”

- **Business intelligence to combat insurance policy lapses**

(Source: IT News Africa, 29 Oct 2018) *[Return comment]*

“For insurers, managing policy lapses or surrenders are part of business. But despite recent figures reflecting a nine percent decrease in surrenders last year from 2016, it will remain a concern for companies trying to compete amidst ever-tightening budgets.”

- **Can incumbent insurers dodge digital disruption?**

(Source: Disruption Hub, 17 Oct 2018) *[Return comment]*

“Despite specialising in risk, incumbent insurers have been slow to adapt to digital disruption. Today, insurers face an entirely new set of challenges. Technology is taking the guesswork out of policy making – not just for the policy makers, but for policy holders too. In the face of digitalisation, consumer preferences and connected products, insurance has been forced to change”

- **Experts advise hanging up if a robocall is offering to sell you health insurance**

(Source: Sacbee, 7 Nov 2018) *[Return comment]*

“ ‘Anna’ will not stop calling. She really, really wants to sell you health insurance. What a lot of consumers really, really want is to smack Anna upside her robocalling head.”

- **Greenlight capital invests in South Africa’s insurtech disrupter Click2sure**

(Source: Tech Financials, 16 Oct 2018) *[Return comment]*

- **How to sell life insurance online**

(Source: Investopedia) *[Return comment]*

- **Insurtech strikes: How artificial intelligence and machine learning are redefining the insurance industry**
 (Source: Claims Journal, 5 Nov 2018) *[Return comment]*
 “The insurance industry has operated with great consistency and clear processes for many years. People may not always like or agree with how things work, but nearly everyone from the consumer to the provider essentially goes with it — no uprisings to drive change, no big shakeups.”
- **Insurance experts expect higher cyber-related losses**
 (Source: Helpnet Security) *[Return comment]*
- **Insurance technology in commercial lines**
 (Source: McKinsey) *[Return comment]*
- **Insurers need to be wise to the strategic value of artificial intelligence**
 (Source: Accenture, Oct 2018) *[Return comment]*
 “Artificial intelligence is most effective when organizations use it to do something new. Smart organizations recognize that artificial intelligence is not just a technology but a collection of powerful, often diverse, technologies.”
- **Key to cyber insurance process is finding the right broker**
 (Source: Healthcare IT News, 9 Oct 2018) *[Return comment]*
 “Highlights the need for healthcare organizations to compare prices and find a carrier willing to partner on cybersecurity. With cybersecurity, there’s no 100 percent certainty that an organization is completely protected against cyber threats.”
- **Nationwide Insurance dashcam investment pays off for nonprofit agency**
 (Source: Insurance Journal) *[Return comment]*
- **Partnerships are the key to insurance data monetization**
 (Source: Accenture, 18 Oct 2018) *[Return comment]*
 “Carriers should look further than just insurtech firms when scouting for data monetization partners. Partnerships are likely to be critical to the success of insurers’ efforts to monetize their data resources.”
- **Real-time risk management and next-generation insurance**
 (Source: Brink News, 9 Oct 2018) *[Return comment]*
 “A confluence of trends is enabling businesses and the insurance industry to move toward a revolutionary new approach: real-time risk management. Managing risk in real time offers the potential to both reduce risk and transfer it more effectively. It means businesses can have an up-to-the-minute view of their changing risk exposures—and take actions to mitigate them—and that the insurance industry no longer needs to rely only on historical data to price risk”
- **South Africa due for an insurtech shakeup**
 (Source: IT Online, 22 Oct 2018) *[Return comment]*
 “Emerging market insurtech companies are set to play a major role in the predicted rise of premium growth across the global insurance industry. This expectation has motivated Sanlam to become the first South African insurtech partner to the Plug and Play global innovation platform, based in Silicon Valley.”
- **State Farm attack ad on Lemonade backfires, setting the stage in battle of old vs. new**
 (Source: Forbes, 22 Oct 2018) *[Return comment]*
 “For the first time ever, a company pays to promote its competitors’ ads. Yes, that’s right. The advertising industry has evolved tremendously in the past few decades, but what just happened in insurance can definitely be considered a first – and it’s getting hot.”
- **Steak and chips: How internet of things (IoT) and machine learning will disrupt risk in animal insurance**
 (Source: TechRadar) *[Return comment]*
- **The changing risk and liability landscape: New tech, new loss scenarios**
 (Source: Insurance Journal, 19 Oct 2018) *[Return comment]*
 “Advancements in technology are changing the risk landscape irrevocably and driving potential big changes in liability, and other insurance, claims activity. The opportunities for business from new technologies such as autonomous machines, artificial intelligence, smart factories and digitalized supply chains are immense and wide-ranging.”

- **The future of the insurance industry: A capabilities perspective**
(Source: Strategy& PWC) *[Return comment]*
- **Travel insurance insurtech makes this untapped market more appealing**
(Source: California Broker Magazine, 16 Oct 2018) *[Return comment]*
“The opportunities for brokers to sell travel insurance are growing and made even more attractive with advancements in insurtech that make the comparison, selection and purchase of insurance simpler and less time-consuming.”
- **Travelers broadens claims-by-drone insurance with strategic investment**
(Source: ZD Net) *[Return comment]*
- **Why cloud? Why now? A different cloud conversation emerges for insurers**
(Source: Accenture, 29 Oct 2018) *[Return comment]*
“We’re not just talking about it anymore—it’s time for insurers to be proactive in their journey to cloud. Cloud adoption is on the rise for insurers. It’s not enough to talk about it anymore—insurers the world over are starting to recognize that cloud is not just about IT infrastructure; it’s about using the latest technologies to solve real business problems.”
- **Why is John Hancock selling only interactive life insurance?**
(Source: CB Insights) *[Return comment]*
- **Which insurers are talking up telematics on earnings calls?**
(Source: CB Insights, 9 Nov 2018) *[Return comment]*
“More than 10 insurers ranging from Allstate and Progressive to Selective and Erie have mentioned telematics on earnings calls. Here’s what they’re talking about. Telematics, or the use of an app or device to track a driver’s behavior in real-time, has been a hot topic on corporate earnings calls over the last two years, and insurers are increasingly starting to add to the discussion.”
- **Will tech make insurance obsolete in the future?**
(Source: Singularity Hub, 18 Oct 2018) *[Return comment]*
“We profit from it, we fear it, and we find it impossibly hard to quantify: risk. While not the sexiest of industries, insurance can be a life-saving protector, pooling everyone’s premiums to safeguard against some of our greatest, most unexpected losses.”

Mobile, wireless and cloud

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- **2025 is the 5G tipping point, and media will do the tipping**
(Source: Disruptive Asia, 16 Oct 2018) *[Return comment]*
“The year 2025 will be the tipping point for 5G, and you’ll have media companies to thank for that. Or perhaps the other way around, as 5G will help media and entertainment companies generate nearly \$1.3 trillion in revenues by 2028. All this is according to a new report called ‘5G Economics of Entertainment Report’, conducted by Ovum and commissioned by Intel, which reckons that between 2019 and 2028, there’s a \$3 trillion wireless revenue opportunity for media and entertainment companies to cash in on – and almost half of that will be enabled by the new capabilities that 5G will deliver to mobile networks”
- **5G network speeds are coming - here's what it will feel like**
(Source: CNET, 17 Oct 2018) *[Return comment]*
- **5G partnership analysis: The wireless carriers, chipmakers and equipment makers pushing the spectrum forward**
(Source: CB Insights) *[Return comment]*
- **Cost to develop finance apps for internet of things (IoT) and banking industry**
(Source: Whatech, 30 Oct 2018) *[Return comment]*
“This blog aims to throw light on some significant aspects of finance apps and how they are influenced by IoT. Despite their rising popularity, it is common for most people to be unaware of the culture of innovation for Industrial IoT (Internet of Things).”

- **Emma, the "banking app for millennials", gets FCA approval and announces it will integrate Monzo and Revolut**
 (Source: City A.M., 12 Jan 2018) *[Return comment]*
 "London-based Emma Technologies, which calls itself the "banking app for millennials", has today won approval from the City watchdog to provide payment services. The Financial Conduct Authority (FCA) gave the nod to the mobile-only app just over a month after it launched its beta service, helping consumers avoid overdrafts, find and cancel subscriptions and track debt with the aim of saving money."
- **Freertrade launches 'zero-fee' investment app**
 (Source: TechCrunch) *[Return comment]*
- **Legacy banks' mobile app advantages**
 (Source: Pymnts, 30 Oct 2018) *[Return comment]*
 "A consumer's sense of security and trust can be a funny, even unpredictable thing, especially when it comes to payments, banking and commerce. Maybe it's the reputation of a brand that lowers the mental resistance to inputting payment and personal details on a mobile device to complete a transaction."
- **Malaysia moves to enable money transfer via mobile number**
 (Source: Asian Banking and Finance, 19 Oct 2018) *[Return comment]*
 "Users will be able to transfer money through DuitNow by December 2018. Malaysia is taking a leaf out of Singapore's playbook as it moves to enable fund transfer via mobile number as banks across the country and national financial market infrastructure provider Paynet prepare to launch electronic fund transfer service DuitNow in December"
- **South Africa's Rain to launch 5G network**
 (Source: Tech Financials, 25 Oct 2018) *[Return comment]*
 "Rain, South Africa's mobile data-only network operator, will be launching a new 5G wireless network, its chairman, Paul Harris, announced on Friday at the South Africa Investment Conference. Rain has for the past 18 months rolled out a 4G LTE Advanced data network that covers the metro areas in South Africa and provides fast and affordable connectivity to consumers."
- **Tracking how mobile banking and texting are impacting lives in Africa**
 (Source: Phys) *[Return comment]*
- **Why mobile tech is the 'achilles' heel' of digital transformation projects**
 (Source: Tech Republic, 17 Oct 2018) *[Return comment]*
 "Digital transformation is exploding in popularity across the enterprise, but there is one technological aspect that has become the Achilles' Heel of these projects for leaders: Mobile. A new study commissioned by Dropsources found that 84% percent of digital leaders weren't confident in their approach to mobile and didn't believe it would help them meet business goals."

Payment technologies

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- **Amazon pay for Alexa skills enable voice commerce on Amazon Echo**
 (Source: Tame Bay) *[Return comment]*
- **Apple Pay: A cheat sheet**
 (Source: Tech Republic, 19 Oct 2018) *[Return comment]*
 "Apple Pay is a mobile payment solution based on Near Field Communication (NFC) technology that was released alongside the iPhone 6 and iPhone 6 Plus in September 2014. The service launched with a few hundred thousand point of sale (POS) locations supporting the service, and has grown to a service that is supported by more than two million retail locations in many countries."
- **Apple Pay cash looks to be ready for rollout in some European markets**
 (Source: MacTrast) *[Return comment]*
- **Apple Pay struggles to stave off rival payment apps from Walmart, Google and Starbucks**
 (Source: Patently Apple, 30 Oct 2018) *[Return comment]*
 "Four years after introducing Apple Pay, the company is going neighborhood by neighborhood trying to get U.S. retailers and consumers to use the service – no easy task. While as many as one in three households with credit cards tap the app at least twice a month in the U.K., the system is used that often by only 14% of those households in the U.S."

- **Are UK consumers rejecting mobile payments?**
 (Source: Internet Retailing, 29 Oct 2018) *[Return comment]*
 “Despite the hype, research by IDEX Biometrics has revealed that mobile payments are almost as unpopular as cheques. In fact, the payment card is still the number one payment method when it comes to in-store purchases for UK consumers”
- **Banking in a cashless society will require African solutions for African problems**
 (Source: Ghana MMA, 30 Oct 2018) *[Return comment]*
- **Beyond Amazon Go: The technologies and players shaping cashier-less retail**
 (Source: CB Insights) *[Return comment]*
- **Brexit 50p coin: Now that we're leaving the EU, are we further away from a cashless society?**
 (Source: Forbes, 29 Oct 2018) *[Return comment]*
 “As part of the 2018 Budget, it was announced that a commemorative 50p coin would be released following the UK’s Brexit from the European Union.”
- **Businesses pursue real-time payments technology**
 (Source: Pymnts, 30 Oct 2018) *[Return comment]*
 “Paper checks are still the norm when it comes to B2B payments — and companies aren’t happy about it. After all, paper checks are neither easy to use, nor convenient. Twenty percent of companies surveyed by PYMNTS said they dislike using checks for B2B payments because of fraud concerns, while another 18% said checks are too expensive.”
- **Customer service analytics in payments**
 (Source: McKinsey, Oct 2018) *[Return comment]*
 “Payments providers that adopt advanced analytics to develop integrated approaches to customer service are seeing significant improvements. As payments providers around the globe cope with increasing pressure on revenues and margins, customer service is increasingly becoming an important asset for driving top- and bottom-line performance, and improving the customer experience.”
- **Digital coupon redemptions driving purchases**
 (Source: RIS News, 23 Oct 2018) *[Return comment]*
 “There’s no question that digital coupons significantly impact shoppers’ pre-shop preparation and materially influence purchase prioritization. More and more digital coupons are being acquired during the actual shopping trip – and driving additional, previously unplanned purchases.”
- **Digital is changing the ‘payment rituals’ of African consumers**
 (Source: IT Online) *[Return comment]*
- **Digital money transfer services undercutting banks to serve SMEs**
 (Source: Forbes, 27 Oct 2018) *[Return comment]*
 “Digital money transfer services are continuing to make moves and Azimo, one of the leading companies in this space, is taking on high street banks with a new service that will allow SME owners across the UK and Europe to make payments in 189 countries.”
- **Future of payments 2018**
 (Source: Raconteur, Oct 2018) *[Return comment]*
 “Innovation in the payments sector is set to make cash and card look as old fashioned as bartering with livestock, and financial companies are scrambling to keep up. The Future of Payments report, published in The Times, details the sluggish progress of open banking, while China sprints ahead with highly developed mobile payment systems.”
- **GAP upgrades payments technology in Europe**
 (Source: Essential Retail) *[Return comment]*
- **Gig workers choose PayPal over direct deposit**
 (Source: Pymnts) *[Return comment]*
- **Have you ever paid the wrong person? A change to online banking will stop the problem**
 (Source: The Sun, 18 Oct 2018) *[Return comment]*
 “Banks are to start warning customers who they’re really transferring money to in a fresh clampdown on fraud. As of next year, high street banks will be able to alert customers if the name of someone they’re trying to pay doesn’t match the account details.”

- **If you can track a pizza, why can't you track a payment?**
(Source: ZD Net, 22 Oct 2018) *[Return comment]*
“Wells Fargo, HSBC and the Commonwealth Bank all agree consumers are looking for the same experience from their bank as they get from other parts of their life”
- **Initialized capital-backed DDEX releases mobile wallet**
(Source: BC Focus) *[Return comment]*
- **JPMorgan’s focus on blockchain is part of digital transformation roadmap**
(Source: Coin Telegraph) *[Return comment]*
- **Kenyan banks seek regulatory approval to use blockchain tech**
(Source: Bloomberg) *[Return comment]*
- **Making cash available in an instant and without hassle**
(Source: Gulf News) *[Return comment]*
- **Market map: 125 companies disrupting payments**
(Source: CB Insights) *[Return comment]*
- **Mass adoption of blockchain in payment is near**
(Source: BC Focus) *[Return comment]*
- **Mastercard hosts African Debit Forum to discuss role of technology**
(Source: IT News Africa, 29 Oct 2018) *[Return comment]*
“In its journey to build a stronger payment ecosystem across Africa, Mastercard recently hosted its first African Debit Forum, as part of its Connecting Tomorrow 2018 Forum in Barcelona. Topics discussed included the strategic role that current accounts and debit cards play in shaping consumer relationships, trends and insights into how African retail banking is evolving, as well as how digital and mobile channels are changing the habits of consumers and what this means for the banking industry.”
- **Mastercard launches bill pay exchange**
(Source: Business Insider) *[Return comment]*
- **Mastercard patent hints at plan for multi-currency blockchains**
(Source: CoinDesk) *[Return comment]*
- **Mobile payment app for schools expands offering**
(Source: IT Web, Oct 2018) *[Return comment]*
“Mobile payment app for schools, Karri, has expanded to include collections for any local organisation that wants to collect payment from members. Launched in April 2017, Karri allows parents or guardians to send money to schools for their children’s extra-curricular activities, such as school trips or fundraising activities.”
- **No cash needed at this café, where students pay the tab with their personal data**
(Source: National Public Radio) *[Return comment]*
- **Payments providers are introducing public transit solutions**
(Source: Business Insider) *[Return comment]*
- **PayPal and Walmart partner to usher in a cashless future**
(Source: Forbes, 28 Oct 2018) *[Return comment]*
“The powers-that-be want to kill paper money. It would make everything so much easier. However, cash is still king at the lower rung of the socioeconomic ladder.”
- **Paytm makes up one-third of India’s United payments interface volume**
(Source: Business Insider) *[Return comment]*
- **Pocket money apps aim to help kids in cashless world**
(Source: SF Gate, 12 Nov 2018) *[Return comment]*
“Use Gohenry, one of a wave of digital banking apps for children, in London. A wave of digital pocket money apps that come with prepaid cards are new tools for financial education as money increasingly goes digital, in a shift that’s raising uncertainty about how cashless transactions affect youngsters’ view of money.”

- **Sam's Club is ditching cashiers at a new store in Texas**
 (Source: CNBC, 29 Oct 2018) *[Return comment]*
 “Sam’s Club is opening a location in Dallas that will allow customers to scan and pay for their groceries with an app — without a cashier or standing in the checkout line. It comes at a time when many retailers, including Sam’s Club owner Walmart, Target, Kroger and Macy’s, are playing with technology in stores to appeal to customers, cut costs and grow sales”
- **Singtel unveils cross-border payments system Via**
 (Source: ZD Net) *[Return comment]*
- **Square unveils all-in-one portable payments device**
 (Source: Retail Dive, 19 Oct 2018) *[Return comment]*
 “Square expanded its hardware offerings with the introduction yesterday of Square Terminal, which is designed to replace legacy, keypad credit card machines, according to a press release. Square Terminal is an all-in-one mobile hardware device that does not require a phone or tablet unlike the company’s basic card reader. It accepts mobile payments, as well as chip or swipe payment cards, and has a built-in printer, along with an array of extra-cost accessories such as a countertop mount, a belt clip and a cash drawer.”
- **Tagpay: The bank future is being invented in Africa**
 (Source: Tech in Africa) *[Return comment]*
- **Tech-enabled makeup booths? This trend could bring cashier-less retail to China's beauty shoppers**
 (Source: CB Insights) *[Return comment]*
 “As insurers struggle to replace retiring professionals, outsourcing data management can provide access to artificial intelligence and other kinds of technology-driven automation”
- **The five-pointed star of mobile payments**
 (Source: Forbes, 25 Oct 2018) *[Return comment]*
 “‘Mobile payment’ is a term that encompasses a lot of interconnected technologies, and one can’t really benefit from only doing one of them. You don’t necessarily need to build out all of these, but if you only build one, you may be setting yourself up for failure.”
- **The most popular mobile payment apps**
 (Source: Investopedia) *[Return comment]*
 “As enterprises strive for ways to better interpret data, they traditionally have relied on predictive analytics. However, as business becomes more competitive, organizations have realized they need to tap into even deeper insights and are beginning to look at the next level.”
- **UK contactless cards surpass chip transactions**
 (Source: Business Insider, 17 Oct 2018) *[Return comment]*
- **Understanding machine learning’s role in payments**
 (Source: Opus Consulting) *[Return comment]*
- **Vietnam mobile payment market growing expeditiously**
 (Source: Empowered News, 27 Oct 2018) *[Return comment]*
 “Changes in customer preference from cash to digital payments, surge in need for immediate transactions in Vietnam, increased penetration of internet and smartphones, and growth of the e-commerce industry majorly contribute towards the growth of the market.”
- **Visa and Postmates launch "instant deposits" for gig economy workers**
 (Source: Business Insider) *[Return comment]*
- **Walmart and PayPal partner to offer in-store services**
 (Source: Retail Dive, 12 Oct 2018) *[Return comment]*
 “Walmart and PayPal announced a partnership to allow PayPal mobile app users to withdraw cash from and deposit cash into their PayPal accounts at Walmart stores, marking the first time PayPal users will be able to take both these actions in a brick-and-mortar environment, the companies said in a press release.”
- **Westpac launches 'designer' wearable payments accessories**
 (Source: ZD Net) *[Return comment]*

- **Why Sweden's cashless society is no longer a utopia**

(Source: World Economic Forum, 10 Nov 2018) *[Return comment]*

"The Swedish retail payment market is rapidly moving away from using cash. The outstanding value of cash in circulation has dropped to 1% of Swedish GDP. This development raises some crucial issues regarding the state's role in the payment market"

- **Why the company that figures out frictionless payments will dominate the tech industry**

(Source: Entrepreneur) *[Return comment]*

Risk management

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- **11 effective risk management techniques to plan your business future**

(Source: Creately) *[Return comment]*

- **A holistic approach to risk management**

(Source: McKinsey) *[Return comment]*

- **Artificial intelligence and user behavior analytics: Internal audit gets replaced by robots**

(Source: IT Business Edge) *[Return comment]*

- **Data is revolutionizing risk finance—here's how**

(Source: Brink News, 8 Nov 2018) *[Return comment]*

"New ways of using data are starting to revolutionize risk finance—the heart of the historically slow-to-change insurance industry. Pools of data and enhanced analytical skills are changing everything from the scope of coverage to the speed of claims payments to the types of products offered"

- **How financial institutions can put risk management back in the driver's seat**

(Source: PWC StrategyBusiness, 15 Oct 2018) *[Return comment]*

"In the years leading up to the global financial crisis a decade ago, risk was viewed at many financial institutions in a very different way than it is today. Then the financial crisis hit and there was a billions-of-dollars pileup on Wall Street. In the wake of that crisis, financial institutions have been investing a great many resources in beefing up their risk detection and management practices"

- **Mounting auditor regulation 'to reduce role to box-ticking'**

(Source: Cloud Irish Times, 23 Oct 2018) *[Return comment]*

"Mounting regulation of auditors threatens to reduce the role to a meaningless "technical box-ticking" exercise, according to a former Ryanair deputy chief executive and current chairman of Paddy Power BEFTair and Kingspan's audit committees."

- **Non financial risk in financial services**

(Source: Deloitte, 7 Sep 2018) *[Return comment]*

"Risk management is at an inflection point with regulatory authorities placing greater emphasis on managing non-financial risks (NFR) such as non-compliance, misconduct, and cyber risk. Financial institutions need to implement a holistic risk management framework that includes a comprehensive risk taxonomy describing different types of risks, and a robust risk identification process to assess and mitigate non-financial risk across all lines of defense."

- **Reinventing business models through risk management**

(Source: Risk Management) *[Return comment]*

- **Risk management framework: An overview**

(Source: Investopedia, Oct 2018) *[Return comment]*

"All companies face risk; without risk there is no reward. The flip side of this is that too much risk can lead to business failure. Risk management allows a balance to be struck between taking risks and reducing them."

- **The critical flaw in how we think about risk**

(Source: Forbes, 26 Oct 2018) *[Return comment]*

"In risk management there is an adage that complex systems fail in complex ways. Yet, many risk management approaches deal with risk as if it were a discrete, time-defined event, rather than a dynamic, highly volatile process."

- **What are the different sources of business risk?**

(Source: Investopedia, 25 Oct 2018) *[Return comment]*

"A certain risk level is inherent in running a business. A company cannot completely eliminate risk, but it can control or at least successfully manage risk."

Robotics, automation and the internet of things (IoT)

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- **Cobots to replace digital transformation with Intelligent transformation**
(Source: Information Age) *[Return comment]*
- **Four ways jobs will respond to automation**
(Source: MIT Sloan Review) *[Return comment]*
- **How banks can create a successful internet of things (IoT) strategy**
(Source: TechRadar, 7 Nov 2018) *[Return comment]*
“Evidently, the whole of the emerging smart universe is greater than the sum of its ingenious parts. From assembly lines of chassis and frugal thinking such as the rear view convex mirror, to integration with modern technologies such as GPS and complex engineering behind dashboards, incremental innovations have been making automobiles smarter for over a century.”
- **How to build trust in the world of automation**
(Source: Brink News) *[Return comment]*
- **Deploy robotic process automation (RPA) bots to clean legacy data**
(Source: Search CIO) *[Return comment]*
“Data is everywhere – there is no shortage of it. But how much of it can be relied on? Where is the good data?”
- **The intelligent automation revolution: From robotic process automation to cognitive automation**
(Source: Forbes, 24 Oct 2018) *[Return comment]*
“Nearly half of corporations intend to use cognitive automation (“cognitive”) technologies at scale over the next three years, according to a study from KPMG. Developments in artificial intelligence have created a sea of change in automation, rapidly propelling it from basic robotic process automation (RPA) to cognitive, from acting like a human to thinking like a human.”
- **These are the skills you need to work with automation**
(Source: Fast Company) *[Return comment]*
- **Two thirds of large corporates implementing robotic process automation (RPA)**
(Source: Artificial Lawyer) *[Return comment]*
- **What we often get wrong about automation**
(Source: Harvard Business Review) *[Return comment]*

SMEs and incubators

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- **30 corporate innovation labs in finance**
(Source: CB Insights, 18 Oct 2018) *[Return comment]*
“With recent advances in blockchain, cryptocurrency, contactless payments, and more, finance is primed for disruption. As fintech plays a larger role in the financial ecosystem, companies are looking for ways to use tech to solve problems and find new opportunities in the space”
- **Digital money transfer services undercutting banks to serve SMEs**
(Source: Forbes, 27 Oct 2018) *[Return comment]*
“Nearly 80% of heritage financial services firms globally will go out of business, become commoditised or exist only formally but not competing effectively by 2030 according to Gartner. Digital money transfer services are continuing to make moves and Azimo, one of the leading companies in this space, is taking on high street banks with a new service that will allow SME owners across the UK and Europe to make payments in 189 countries.”
- **Founders factory expands its corporate-backed accelerator to Africa**
(Source: TechCrunch) *[Return comment]*
- **Intel Ireland to run new artificial intelligence incubator programme**
(Source: Cloud Irish Times) *[Return comment]*
- **SMBs in Europe want digital banking services**
(Source: Pymnts) *[Return comment]*

- **SMBs weigh trust over technology in banking**
(Source: Pymnts, 22 Oct 2018) *[Return comment]*
“Despite the rise of FinTech firms and challenger banks hoping to offer small businesses (SMBs) a better banking experience, large traditional financial institutions continue to hold the dominant position in the SMB financial services (FinServ) space.”
- **Startup accelerators helped spark Latin America’s tech boom**
(Source: TechCrunch) *[Return comment]*
- **Target to launch startup incubator aimed at Gen Z**
(Source: Retail Dive) *[Return comment]*
- **This is how to get your blockchain startup funded**
(Source: Forbes, 9 Nov 2018) *[Return comment]*
With \$19B invested just last year in European startups that focus on artificial intelligence, blockchain and quantum computing, potentially there is a lot of funding out there for new companies

Trends

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- **2019 economic forecast: Predictions and advice from world's best economist**
(Source: Business Insider) *[Return comment]*
- **Banking for millennials: Chime and simple**
(Source: Investopedia, 28 Oct 2018) *[Return comment]*
“Millennials are children of their time. Born between 1982 and 2002, they came of age during the 2008 financial crisis and the severe recession that followed. As they entered adulthood they had a tough time finding decent jobs.”
- **Banking in a cashless society will require African solutions for African problems**
(Source: Ghana MMA, 30 Oct 2018) *[Return comment]*
- **Blackrock unveils new sustainable investing funds and tools**
(Source: Barrons, 26 Oct 2018) *[Return comment]*
“BlackRock said that sustainable investing is at a “tipping-point moment” as it unveiled a suite of seven sustainable core exchange-traded funds. The firm also launched new analytic tools for environment, social, and governance, or ESG-oriented portfolios, which investors can use across the full range of BlackRock ETFs, not only those dubbed sustainable.”
- **Five things you need to know about the future of money and finance**
(Source: Wired, Oct 2018) *[Return comment]*
“The financial services sector has seen big changes in recent years. More and more people are relying on technology to help them make financial decisions and the ways we spend and earn money have changed beyond recognition.”
- **Future of financial services 2015**
(Source: Reports.World Economic Forum) *[Return comment]*
- **Gartner: Top 10 strategic technology trends for 2019**
(Source: Forbes, 22 Oct 2018) *[Return comment]*
“Gartner has identified a top ten strategic technology trends for the year ahead. Gartner defines ‘strategic’ as those technologies that will have significant disruptive potential over the next five years”
- **Here are the 10 top tech trends you need to understand right now**
(Source: ZD Net, October 2018) *[Return comment]*
“Tech analyst firm Gartner has compiled a list of the top ten strategic technology trends that organisations need to explore in 2019. According to Garner, these technologies have substantial disruptive potential and are either on the edge of making a big impact, or could reach a tipping point in the next five years”
- **Industry trends shaping financial advice**
(Source: Seeking Alpha, 30 Oct 2018) *[Return comment]*
- **IT professionals losing faith in direction IT is going at banks**
(Source: Computer Weekly) *[Return comment]*

- **Less than half of UK workers use a desktop PC**
(Source: TechRadar, Oct 2018) *[Return comment]*
“Desktop PCs are becoming an increasingly rare sight in UK offices as more and more workers turn to more mobile devices, new research claims. Only 42% of workers now use a desktop in the office, with laptops taking over as the device of choice in the workplace”
- **Open banking: The race to deliver banking as a service**
(Source: MIT Technology Review) *[Return comment]*
- **Private banking in Europe in 2018**
(Source: McKinsey) *[Return comment]*
- **Six technological trends in the financial industry in 2018**
(Source: Tweak Your Biz) *[Return comment]*
- **Superfinance – The merging of mind and machine in finance and procurement**
(Source: IT Proportal) *[Return comment]*
- **The big threat to banks is tech, but IT is also an opportunity**
(Source: Telegraph) *[Return comment]*
- **The flywheel philosophy**
(Source: PWC StrategyBusiness) *[Return comment]*
- **The shape of retail banking**
(Source: YouGov, 25 Oct 2018) *[Return comment]*
“How are banks and building societies performing in the minds of the British public? The retail banking industry has undergone many changes in the decade since the 2008 financial crisis, many of which were made to regain trust and improve customers’ banking experience.”
- **Voice-first, artificial intelligence and augmented reality: Three technologies race to again change how we shop**
(Source: Geek Wire, 13 Oct 2018) *[Return comment]*
“Ecommerce is known for its waves of innovation. Augmented reality got off to a slower-than-expected start but appears to be gaining steam. Artificial intelligence is rapidly shedding its dystopian baggage to find a home in countless applications”
- **Why bigger companies are less decisive and what to do about it**
(Source: Forbes, 23 Oct 2018) *[Return comment]*
“New Cloverpop research shows that as companies get bigger, their decision effectiveness declines. That means most large companies earn sub-par D grades for decision-making, significantly below the already mediocre average score of 7 on a 10-point scale.”
- **Which technologies can help you manage finances and investments?**
(Source: G Style Magazine, 19 Oct 2018) *[Return comment]*
“With the world having undergone a technological revolution over the last few decades, there are now many different technological solutions when it comes to managing money. The internet in particular has been an incredibly useful resource, now offering the ability to access online banking, make and receive payments, and invest through online brokers.”
- **Why big banks are requiring workers to learn coding**
(Source: Tech Republic) *[Return comment]*

Virtual reality (VR) and augmented reality (AR)

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- **Augmented reality and virtual reality to drive efficiencies at every building phase**
(Source: Construction Dive) *[Return comment]*
- **Augmented and virtual reality in operations: A guide for investment**
(Source: CapGemini) *[Return comment]*
- **Augmented edges virtual as battle for realities heats up**
(Source: Gulf News, Oct 2018) *[Return comment]*
“Real boom for virtual reality will come from the commercial space as use cases across different industries grow Dubai: Augmented reality (AR) has a better penetration ratio than virtual reality (VR) in the region due to the easy-to-use AR-enabled smartphone apps developed to access the content, industry experts have said.”

- **Beyond gaming: 19 industries VR/AR is poised to transform**
(Source: CB Insights) *[Return comment]*
- **Confused about the future of work?**
(Source: Inc) *[Return comment]*
- **How can augmented reality benefit the manufacturing industry?**
(Source: Smart Data Collective, 24 Oct 2018) *[Return comment]*
“New technologies aren’t just being developed faster than ever — they’re also being adopted faster than ever. Not many could have predicted a couple of years ago that flagship smartphones in 2018 would be putting augmented reality into pockets everywhere.”
- **How to use virtual reality for employee training: 3 virtual reality platforms to check out**
(Source: Tech Republic) *[Return comment]*
- **Site virtual reality swings London skyscraper planning appeal**
(Source: Construction Enquirer, 19 Oct 2018) *[Return comment]*
“London developer LBS Properties has secured planning at appeal for a £230m mixed-use skyscraper on the Isle of Dogs in London next to Canary Wharf. It’s the first time architect Make has used virtual reality to help an inspector assess a new development, marking a significant moment for digital construction”
- **Soldiers to get advanced virtual training tools next year**
(Source: Military) *[Return comment]*
- **The history of augmented and virtual reality [Infographic]**
(Source: In Globe Technologies, Oct 2018) *[Return comment]*
“Augmented and virtual reality are current topics nowadays and some people may think they popped out of nowhere. Actually they are the result of a long series of inventions and innovations starting from the fourteenth century.”
- **Virtual reality: A cheat sheet for business pros**
(Source: Tech Republic, 25 Oct 2018) *[Return comment]*
“Virtual reality isn’t hype or a mere novelty—there are real-world applications for the tech. This primer on virtual reality covers how businesses are using it, popular virtual reality devices, and more”
- **Virtual reality in e-learning: A case study on safety training**
(Source: e-Learning Industry) *[Return comment]*
- **What augmented reality training is and how to leverage IT in your learning and development process**
(Source: e-Learning Industry) *[Return comment]*
- **Why augmented reality and virtual reality content needs to be searchable**
(Source: Tech Republic, 16 Oct 2018) *[Return comment]*
“Developing an API where developers can integrate our API and database of content readily into their applications. This is specifically most interesting to companies that have a camera in their applications, because suddenly, they’re provided with a database of filters and other types of immersive content, including 360-3D content they can readily integrate into their applications, and they don’t have to then go out and create all this AR and VR content”

Voice, chatbots and virtual assistants

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- **Amazon Alexa comes to office technology**
(Source: Pymnts, 25 Oct 2018) *[Return comment]*
“Amazon has launched a new feature that will allow third-party office equipment manufacturers to embed Alexa directly onto their devices. According to Fortune, the feature is an extension of the company’s Alexa Voice Service device software development kit, used by coders to embed Alexa into non-office equipment including internet-connected speakers and home networking gear.”
- **Artificial intelligence chatbot offers better way to search maze of company information**
(Source: Nvidia, 1 Oct 2018) *[Return comment]*
“Your company’s internal online directory of resources resembles a medieval labyrinth. Finding something like the in-house holiday schedule can entail hitting lots of walls”

- **Intelligent virtual assistant market expected to reach US\$ 2,000 million by 2022**
(Source: Market Watch) *[Return comment]*
- **Researchers develop offline speech recognition that is 97% accurate**
(Source: Venture Beat, 22 Oct 2018) *[Return comment]*
“Typically, deep learning approaches to voice recognition — systems that employ layers of neuron-mimicking mathematical functions to parse human speech — lean on powerful remote servers for bulk of processing.”
- **Virtual assistant options for any company**
(Source: Entrepreneur) *[Return comment]*
- **Voice search isn't the next big disrupter, conversational artificial intelligence is**
(Source: Martech Today) *[Return comment]*

A selection of the emerging technologies continuously monitored by DeltaHedron®

Emerging technologies	Applications	Industries
3D Printing and scanning Artificial Intelligence (AI) and Machine Learning Artificial Reality (AR), Virtual Reality (VR) Automotive Autonomous, flying, hybrid, scooters Electric, petrol, diesel, hydrogen, battery Basic sciences Astronomy, biology, chemistry, physics Mathematics, statistics, geology Biotechnology Blockchain Cryptocurrencies Bots Chatbots, cobots Robotics and automation Biometrics, voice/facial recognition Computers and computing Quantum computing High Performance Computing Memory storage Data Big data, analytics, business intelligence Cybersecurity, data protection Data science Digital and ICT Mobile, cloud, wireless, wifi Broadband, 5G, VOIP Software, SaaS, APIs, digital twinning Drones Electronics and photonics Antennas, radar, lidar, LoRA, sonar Energy Batteries, storage, renewables Electric, fossil, oil/gas, nuclear, hydro Hydrogen, solar, wind, tidal Imaging Holograms, photography, video Internet of Things (IoT) Industrial, sensors, RFID Materials Building, chemicals, bio, graphene, nano Metals, metallurgy, plastics, self-healing Wearables	Asset management Protection, tracking Anti-poaching Cities and communities Real estate Smart cities Smart home, office, factory Customer experience Consumers, UX Digital identity Authentication, identification e-Privacy, GDPR Environment Carbon emissions Climate change, conservation Water, marine, oceans Fraud prevention Anti-counterfeiting Games, toys Geolocation, mapping Navigation, GPS, tracking Health Dental Digital health Diseases/medical conditions Health and safety Hospitals, homecare Mental health, psychology Pharma, medicine ICT Data centres Enterprise systems Phones, tablets, apps Internet, online, web Search Engine Optimisation Management/governance Software development Telecommunications Legal, IP and patenting Maintenance Marketing, branding Packaging Workflow X-as-a-Service (XaaS)	Aerospace Agriculture, food, agritech Animals, crops, plants, fisheries Arts and culture Built Environment, construction Constructechs, housing Facilities management Chemical, biochemical Defence Education Edtech and Corporate learning Higher education and schools Energy Engineering Entertainment, music Fashion, textiles Financial, banking, investment e-Payments Fintechs, insurtechs Insurance, actuarial Health, pharma, cosmetics ICT Logistics, procurement Supply chain Manufacturing Maritime, marine, oceans Shipping, ports Media, journalism, publishing Social media Mining and minerals Philanthropy, CSR Professions Accounting, Auditing Engineering, Health, Legal Public sector, digital government Retail Security and policing Service industries Sport, exercise, leisure Telecommunications Tourism, travel, hospitality Transport, infrastructure Air travel and airports Public transport, rail, road

Business impact and cross-cutting themes

Trends and future thinking Digital transformation Disruption Dynamics of technological change Societies and communities Generational impact World of work and employment Freelance, gig economy HR management, recruitment, training	Risk management Innovation management Business models/platforms Corporate culture Incubators/accelerators Science and techno parks R&D, technology transfer Ventures, startups and entrepreneurship	Leadership and management Change management Decision-making/support Ethics and values National and regional interest Competitiveness Economic impact Fourth Industrial Revolution Innovation systems/policy
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The impact of emerging technologies on Financial Institutions: Recent trends



DeltaHedron® Ltd is a UK-based consulting firm with a global reach, specialising in the management of technological innovation. Our focus is on supporting our clients to assess and manage the strategic business impact, opportunities, risks and threats presented by emerging technologies and the dynamics of technological change.

“A company with an engineering soul, an innovation mindset and a business outlook”



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