

The Connected Business

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Focus turns to IT as tool for growth

The financial services sector has been using technology to keep pace, writes *Paul Taylor*, but it now needs to be used for innovation

The aftermath of the financial crisis has left banks and financial services companies facing the challenge of re-inventing themselves in an industry being reshaped by mergers, regulatory change, cost cutting and persistent security threats.

In this era of rapid change, commoditisation and consumerisation have thrust the financial services industry into the centre of what research firm Gartner calls a nexus of converging forces – these can be defined as social networks, mobile devices, cloud-based resources and the sheer amount of information, so-called big data.

But this also presents an opportunity for forward-looking financial services firms to investments in their

IT and use the technology now at their disposal to drive innovation and create financial growth.

Jean Lassignardie, chief sales and marketing officer of Capgemini Global Financial Services, says: "For years, financial institutions have had to focus on cost cutting, operational improvements and process efficiencies to stay competitive and improve margins."

"Technology was on the back burner as IT budgets shrank and firms continued to rely on legacy systems. But customer demands have grown increasingly sophisticated and today technology is seen as a key enabler for the financial services industry."

"Technology not only drives change and innovation but also helps



Long-term imperative: banks need to use the latest trends in technology to retain customer attention

Alamy

companies adapt to meeting customer demands while meeting complex regulatory requirements and reducing operational costs."

Although the financial services industry encompasses a wide range of institutions, from commercial banks and insurance companies to investment banks, trust firms and brokerages, many of the issues they face are the same.

'Customer demands have become sophisticated and technology is now seen as a key enabler'

As Tom Durkin, Bank of America's global head of integrated channels, says: "Banks are challenged with regulatory and information security demands and we are getting pressure across the board. But how we keep on top of that presents an opportunity to use investment to upgrade technology, leverage it and better position the organisation for long-term growth, not just holding on to what you have today."

Like many others, Bank of America, has also looked to IT systems, and enterprise resource planning software from provider SAP in particular, to address the growing complexity of its IT systems after a string of mergers and acquisitions.

Don Trotta, global head of banking industry development at SAP, says:

"The main challenges banks discuss with us almost always fall into three areas – risk and regulatory compliance, reducing cost and complexity in their legacy environments, and finding new paths to growth – largely through transforming to a more customer centric model in the mobile, multi-channel world we live in."

"IT can be the difference maker on all three fronts," he says. "Banks do recognise these challenges as reflected by the fact that bank IT spending is predicted to grow incrementally over the coming years. But the key is to shift the mix from spending much of it on maintenance to more of it on innovation. Unfortunately, this is not happening fast enough. Banks need to fundamentally change their

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Outsourcing

Lenders are averse to getting one outsider to provide for all their IT needs, says *Jessica Twentyman*

The global financial services industry has been a pioneer when it comes to IT outsourcing, overtaking most other sectors in terms of deal volumes and values.

More recently it has been a much-needed bright spot for providers struggling against the effects of the debt crisis in Europe and the anti-offshoring rhetoric of the US presidential campaign.

Figures from Everest Group, a research company, indicate that in the second quarter of 2012, the number of across the board new IT and business process outsourcing (BPO) contracts worldwide fell for the fifth consecutive quarter, this time down 7 per cent from the first quarter. Meanwhile, annual contract values (ACVs) for the quarter – measured by dividing the value of a contract by its duration in years – were down 25 per cent.

Acting as a bright spot in the gloom, however, is the banking, financial services and insurance (BFSI) sector, which beat all others in terms of transaction volumes for the quarter. ACVs, meanwhile, rose 61 per cent.

This will be a relief to outsourcing vendors, who saw revenues from this important customer sector stumble in the wake of the 2008 global financial crisis.

"The immediate result was a complete squeeze on new projects," says NG Subramaniam, president of TCS Financial Solutions, part of IT services company Tata Consultancy Services.

However, this has begun to change, he says. "In the past 18 months, most banks have figured out that this continued state of uncertainty is the 'new normal' and that, even when there's uncertainty in the external environment, they still need



One outsourcing company managing others seems risky

their service-level agreements and how do you decide who's responsible when something goes wrong?" asks Mr Cooper-Bagnall.

The answer that is emerging is to create a function with responsibility for overseeing the entire outsourced portfolio. This is sometimes referred to as service integration, or service integration and application management, and it is increasingly being offered by outsourcing companies themselves.

For many customers, however, the idea of having one outsourcing company managing others objectively and fairly seems fraught with risk.

For that reason, some are hiring people with the necessary experience in managing outsourcing services to work in-house.

In this respect, financial services companies are probably better positioned to put together service integration teams than companies from other sectors, according to Steve Tuppen, partner at Information Services Group, an advisory firm.

"The decision about whether a company buys service integration from the market or develops it in-house depends on the level of maturity that it has with outsourcing," he says. "Some of the retail banks, for example, have a very high level of maturity and may well decide to develop service integration using internal teams."

At present, however, there is a dearth of formal accreditations in the area of service integration and an acute shortage of individuals with the right skills and experience to manage end-to-end delivery of multiple providers.

"I've spoken to IT leaders at two major financial services firms in the past couple of weeks about multi-sourcing and they've both told me that deciding how they're going to manage gaps in service delivery and create an integrated approach is the biggest struggle they face with outsourcing right now," says Mr Cooper-Bagnall.

to focus on strategy." For many, cutting the costs associated with IT has been high on the strategy agenda, driving them back to the outsourcing industry for help.

After all, cost is a big driver of outsourcing across all industry sectors. In a recent survey conducted by management consultancy KPMG, 70 per cent of respondents cited it as a reason to outsource functions to a third-party.

That said, it is difficult to keep driving costs down once a service is success-

'Financial services companies are milking the back office to feed the front office'

fully "bedded down" with a provider. As a result, the next goal for many has been to use outsourcing to drive growth.

New initiatives in financial services companies, says Mr Subramaniam, tend to focus on customer-facing services, for example, internet and mobile banking, more efficient call centres, faster claims processing and loan approval.

These are high-profile, front-office projects that

most banks prefer to keep in-house, but if back-office functions are outsourced, in-house resources can be focused on more money-making parts of the business.

"In effect, what we see financial services companies doing is milking the back office to feed the front office," he says.

At many institutions, this will result in smaller, more strategic outsourcing contracts, issued across a broader range of suppliers, as different elements of the IT infrastructure come up for reassessment or renewal.

But this raises challenges, says Jonathan Cooper-Bagnall, head of global sourcing at PA Consulting. "In the past, financial services companies were happy to sign megadeals, where they hosted all the infrastructure, applications and application development over to a single provider for one big fee," he says.

For many reasons, both financial and reputational, the industry is now pretty averse to these big contracts. Instead, they are increasingly multi-sourcing – using different vendors to provide different elements of IT need.

"The difficult thing is, who do you get to manage it all? What's the best way to get providers to collaborate? How are you going to ensure that they all stick to

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Mishaps prompt greater scrutiny of high speed traders

Computer errors Exchanges are acting to make dealing safer, says *Philip Stafford*

The Securities and Exchange Commission, the US equities regulator, last month, and for the first time, fined a stock exchange for breaking rules.

The levy of \$5m against the New York Stock Exchange was unique as exchanges enjoy a quasi-governmental legal status as “self-regulating organisations”, which gives them certain exemptions denied other market participants. It also marked a new point in an continuing battle for authorities to monitor effectively high-speed trading in the market.

The SEC alleged compliance failures at the Big Board “gave certain customers an improper head start on trading information” over a two-year period. It argued the NYSE had fed data through two proprietary feeds to its proprietary customers. However, a third feed that sent data to the consolidated tape, a publicly available repository of trades and quotes, sometimes had software issues that slowed dissemination over a range of times, from milliseconds to several seconds. That final point, the SEC alleged, ran counter to regulation that held the public should have fair access to current market information.

The customers that benefited from the faster information were the ones who had paid for it; high-frequency traders. As an industry it has grown in the past five years to account for the majority of daily trading on US equity markets and around a third in Europe according to analyst estimates. It is also common in exchange-traded derivatives, currencies, and increasingly, commodities.

Typically conducted by investors trading their own capital, these transactions rely on superfast computers, and algorithms and automation to hold positions in assets for fractions of seconds. Trading strategies are plotted by analysing data rather than determining an asset’s fundamental value. Their rise was aided by falling technology costs, decimatisation of asset prices and the fragmentation of trading across trading venues – ironically something made possible in the same legislation that NYSE was accused of contravening.

As high-speed trading becomes a bigger part of daily transactions, so does their importance to exchanges’ profits. But their emergence also created a race for greater speed. Most market participants – banks, other institutional traders and exchanges – argue they need similar tools to react quickly so orders are not left exposed as prices move in microseconds.

This focus on technology and automated trading has thrown up an ever-growing list of high-profile mishaps. Facebook’s stock experienced a technical glitch when its shares debuted on Nasdaq OMX, a technology issue killed the initial public offering of BATS Global Markets on its own market, while Knight Capital Group lost nearly \$10m per minute for 45 minutes in August.

According to an August 2012 Tabb Group survey, carried out only days after the Knight incident, half of buy-side survey respondents had weak or very weak confidence in today’s markets, and two-thirds want regulators to act very fast or extremely fast



Fast pace: high-speed trades are important to exchanges’ profit margins
Bloomberg

to protect markets from flawed technology, as did almost 60 per cent of sell-side respondents.

Mary Schapiro, chair of the SEC, last week said the Knight problem, with the IPO mishaps, was the result of basic technology issues.

But each mishap has led to greater scrutiny not only of electronic traders – who have had little outside attention – but also the technology they use and the organisations that facilitated their trades, such as exchanges. Hence why the SEC’s charge laid out a marker to the industry.

In response to growing criticism from investors, exchanges around the world have introduced rules aimed at making such trades safer for all. Ratios determining the number of orders investors can send and cancel before they are required to execute a trade have been tightened, while US exchanges have introduced circuit breakers for stocks, although the definition of the parameters that will trip them remains a contentious issue.

The lines between trading and technology have become blurred even to

experienced executives. Reuters quoted Tom Joyce, chief executive of Knight Capital, as saying: “Regulatory risk was not our biggest issue, operational risk was, and we unfortunately proved it.”

A study by the Federal Reserve of Chicago found that, when left to manage risk by themselves, many high-frequency trading firms tended to cut corners to pursue profits.

Regulators, it seems also remain wary. A few days after the SEC took action against the NYSE, Germany pressed ahead with a bill to force high-speed traders to be certified and policed by exchange operators and the national financial regulator, who will have access to their trading algorithms at all times.

On the same day the European parliament voted to introduce a minimum resting time of half a second for orders on markets as part of an overhaul of Europe’s financial markets.

That demand may yet be removed from the final text of the legislation but it is clear technology issues are never far from regulators’ minds.

Watchdog gets Smarts to keep eye on deals

Regulation

FSA steps up monitoring, reports
Charles Batchelor

The UK’s Financial Services Authority announced in September it would beef up its existing Zen transaction reporting software with an additional monitoring system acquired from Nasdaq OMX, the US exchange operator.

The system, known as Smarts, will increase the FSA’s ability to keep an eye on banks and other financial institutions trading securities in London.

The upgrade is a small part of the battle waged by regulators globally to keep on top of the ever more sophisticated automated trading in banks. The spread of high-frequency trading across the world has given an added urgency to the process.

“Only in the fairly recent past has the regulator started to get serious about the data it takes from the financial services industry,” says Andy Whitton, partner in the data analytics practice at Deloitte. “Regulators are now more comfortable with using data than they were 10 years ago.”

John Macdonald, director of IBM’s Risk Analytics business, which supplies risk assessment software to banks and regulators, says: “Financial institutions used to file reports but increasingly the regulators are asking for the raw data, not just results, and running their own tests. They compare the results of their own tests with what the firm says. They are also increasing the frequency, asking for daily returns.”

Zen itself is a relatively new addition to the FSA’s armoury, having replaced a previous system known as Sabre II in August 2011. It collects and interrogates the returns that firms are required to submit on their trades. It allows the regulator to sift vast quantities of data in a hunt for anomalies and suspicious trading patterns that might show up front-running (trading ahead of a client order) and insider trading.

Increased surveillance being brought in by the FSA and other regulators across Europe marks a response, in part, to the wider range of securities that will be covered by Mifid II, the second Markets in Financial Instruments Directive that is working its way through the European parliament. The revisions proposed for the original five-year-old directive will include extra elements of transparency, particularly for the over-the-counter debt and derivatives markets as well as measures to reduce high-frequency trading.

But how good are regulators’ software systems and are they capable of keeping up with those employed by banks? Opinions differ.

“Regulators generally are behind in dealing with the regulated entities and in providing guidance as to what approach they should take,” says Alistair Maughan, partner at law firm Morrison & Foerster. “The FSA is taking a long time in producing guidelines on, for example, cloud computing or the consumerisation of IT. A more proac-

tive approach would help the industry.”

But Risk Analytics’ Mr Macdonald thinks regulators are in a stronger position. “They can say what has to happen so it puts them ahead of the game. The regulator says to the bank: ‘We require you to invest in technology so we know what you are doing.’”

“We provide banks with the software to measure how much capital they are using and to carry out stress testing. Regulators use the same software to assess risk. They might take a different view of the type of test applied but they use the same principles.”

The Smarts software is used by regulators globally, as well in brokers’ compliance departments.

While the regulators have final oversight of the firms within their jurisdictions, regulation depends in part on self-regulation undertaken by the financial institutions themselves.

The FSA says: “The primary tool we use is the firms themselves reporting suspicious transactions. The onus is on the firm.”

Morrison & Foerster’s Mr Maughan agrees. “The obligation is on the firm. They have risk committees to oversee how the firm organises its technology to serve the customer and mitigate risk.”

However, as several recent instances of trading technology failures have shown, financial sector firms are not always masters in their own house. Knight Capital suffered a disastrous meltdown in August when newly

‘Regulators are more comfortable with using data than they were 10 years ago’

installed trading software sent erroneous orders for NYSE-listed securities, creating a \$7bn position that had to be unscrambled at a loss. This followed the so-called “flash crash” in New York in May 2010, when the Dow Jones Industrial Average tumbled hundreds of points within minutes only to rebound later.

These incidents sent regulators everywhere scurrying to strengthen their controls over algorithmic and high-frequency trading. The European Securities and Markets Authority has issued guidelines requiring investment firms to provide a feed of orders in as close to real time as possible and to have staff present to monitor their systems. The US Securities and Exchange Commission is speeding up the writing of rules to make mandatory guidelines over computer systems in place of the voluntary basis that has existed since 1987.

Serious computer failures of this sort are not the same as the market and credit risks regular monitoring of trading is designed to spot and prevent. But they do represent an operating risk to the firm involved and to the wider markets.

“Firms have a responsibility to ensure their automated trading systems are safe,” says Rajesh Menon Pudukulangare, financial services partner at Infosys, a consulting and IT services provider.

Compliance costs eat into plans

Software

The price of keeping up with new laws is often hidden, reports
Michael Dempsey

Financial regulations are complex, and every fresh piece of legislation aimed at banks generates a small industry to comment and advise on it. But by any standards the US Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 stands apart.

The act, named after two of its architects in the US senate, Christopher Dodd and Barney Frank, is a vast web of provisions that aims to curb the rash decision-making that led to the subprime mortgage crisis. It consists of some 400 rules, of which half are yet to be rolled out.

Robert Simpson, vice-president for global financial compliance at US software house Verint, admits Dodd-Frank is “an unfinished symphony”.

He says that it joins a long list of legal enactments

from around the globe that have profound implications for any actors in international financial markets.

Mr Simpson ticks off just a few of the areas Dodd-Frank covers, such as capital adequacy and the relationships between investment and retail banking. With so much global financial trading activity passing via the US, the effects of the act will be felt worldwide.

Yet Verint is not alarmed. Its own financial trading Impact 360 product is being expanded to cover the act’s provisions, many of which boil down to demands for storage of voice or instant-messaging communications. This extends the existing concept of email capture and storage, not in itself a huge problem. “Our challenge is to work out how to extract the information and present it in a usable form for compliance purposes,” says Mr Simpson.

Prasad Chintamaneni is head of global financial markets at Cognizant, a US-based IT outsourcing operating worldwide. Financial sector clients make up 40 per cent of its business.

Mr Chintamaneni now

adds the US Foreign Account Tax Compliance Act to the list of laws IT staff have to wrestle with. For Cognizant, revising procedures to take account of regulatory change is not a problem. Mr Chintamaneni thinks it is where the funding comes from that will create difficulties further down the road.

Banks have to spend money on matching software to changes in law. “We find that regulatory work takes up funds reserved for new initiatives,” says Mr Chintamaneni. This hidden cost may undermine the ability of some institutions to maintain a cutting technological edge, he says.

Are some staff annoyed at how regulation and compliance costs are eating away at their plans? Yes, says Mr Chintamaneni. “It is an ongoing frustration for them.”

The good news is the plethora of rules emanating from the 2008 financial crisis and other banking scandals will settle down after the next three years or so, leaving institutions to regain the balance between



Act architects: Christopher Dodd, left, and Barney Frank

statutory duties and investing in future capabilities.

Meanwhile, there is no getting away from regulation. Andrew Whitton, a partner at business advisers Deloitte, the professional services firm, says: “These regulatory projects take the number-one priority. As they have a legal deadline they trump all other matters.”

He notes that the timescale of regulatory change usually leaves IT

departments with sufficient warning to adapt. “Most new laws have a 12-24 month lead time. If there’s a call for entirely new systems, then big banks will be able to invest significant sums in developing them while smaller institutions will be able to find a software package to meet the requirement.”

However, Mr Whitton agrees the current wave of regulatory change is having unforeseen consequences. “There’s a mood in IT that there has been so much regulatory change that it is stifling the ability to create new business.”

The giant presence in any discussion of corporate governance is the Sarbanes-Oxley Act, a huge piece of US legislation that came to define a whole generation’s attempt to keep business on a morally competent level. Yet, in the decade since it arrived, scandals have been plentiful, in and outside the financial sector.

David Curran, chief executive and founding member of Boston-based Risk Readiness Corporation, is a US lawyer who thinks that the question of compliance with

regulations needs a new approach.

His opinion is reinforced by a recent conversation he had with Senator Paul Sarbanes. “I talked with him about this and he agreed that the whole goal was to bring about more visibility.”

Mr Curran believes that compliance and the tools used to meet it are too focused on reporting to internal committees. It needs to extend and engage with the entire spectrum of corporate lawyers and auditors.

RRC is devising a series of legally approved significant points in a company’s life, such as post-merger integration or supply chain management, where potential breaches of compliance should become evident.

A software tool that pulls these strands together is sold as part of RRC’s consulting package and is all about making any flaw so visible that it will be impossible to ignore.

The crux of RRC’s proposition is not technology, but displaying potential problems in a way that should guarantee a response.

Focus turns from maintenance to IT as a tool for growth

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traditional legacy IT approach of proprietary homegrown banking systems to accelerate this transformation.”

Some financial services firms have begun this process. For example, Toronto-based Home Trust, which provides deposits, mortgage and credit card services to clients whose needs are not addressed by larger, traditional financial institutions, is using SAP’s Bank Analyzer and HANA in-memory computing technology to speed up report generation and help manage risk and make faster decisions.

Martin Reid, Home Trust’s president, says: “The key is to have information, not data, in front of you as quickly as possible so that you can identify changes in trends and certain variables, understand the risks within your portfolio and manage that.”

“The sooner we can get the information the better, and the more granular [that information is], the more that we can deal with that information, the better.”

Indeed, as global management consultant Accenture noted in a recent report: “To achieve and sustain high performance in the

future, traditional commercial banks across the world will need to master two fundamental changes: the transformation of their product offerings, channels and customer service to reflect the demands of the ‘changing consumer’ (connected, impatient, empowered, and demanding of services that meet their individual and social needs) and the reshaping and reinvention of their core banking operations to enable a more competitive, customer-centric, efficient and sustainable business model.”

The report’s authors warned that: “A failure to

achieve either of these imperatives will expose banks to disintermediation by nimble, low-cost online and mobile providers of personal financial management and payments services – resulting in loss of relevance to customers and, therefore, their prominence in the financial services value chain.”

An awareness of these risks is driving IT investment in many large financial services firms and banks. For example, Wells Fargo is undertaking a technology upgrade focused on expanding the bank’s corporate data and

analytics capabilities. Jim Smith, Wells Fargo’s chief information officer, says: “What we’re trying to do is pull together what had been a very distributed network of data environments and analytics teams into a more centrally and strategically managed data group.”

“We are investing in what we’re calling ‘foundational data’ or what other people might refer to as ‘master data’, so that we have a common view, understanding and definition of customers and products.”

“We want to have one version of the truth. That will enable us to have more

consistency in the tools we use, the approaches we’re taking and how we manage risk.”

He says big data and new analytics software can give businesses insights into what customers want and enable the bank’s business units to make better decisions.

‘The key is to have information, not data, in front of you quickly’

“A 360-degree view of a customer becomes much more important when you’re focusing your time on cross-selling to a customer,” he says. “Then you really need to know as much about them as your systems can tell you, first to understand your risk, and so you can get a complete view of a client in terms of their business.”

But unfortunately, as Cagpemi’s Mr Lassignardie, says: “The focus on regulatory compliance can challenge banks’ capacity to undertake customer centric innovation. For example, partly as a result of the

euromarket debt crisis, European banks are complying faster than originally expected with the Basel III objectives, but as a result they have less capacity to focus on innovation.”

“Customer-centric innovation, which has been successfully undertaken [in other sectors], is key to remaining competitive.” Mr Lassignardie believes the sector needs to invest in flexible payment infrastructures. “With the growth of electronic and mobile payments accelerating faster than many predicted, the imperative now is to drive innovation,” he says.

The Connected Business

Business yet to respond to big data challenge

Information analysis Financial industry faces huge barriers, reports *Charles Batchelor*

The banking and insurance industries are used to handling vast volumes of data relating to payments and loans, policies and claims. But how are they responding to the challenge of "big data" – the current buzzword in the field of IT used to define the sheer amount of information institutions have to deal with? Some experts think they still have some way to go.

The amount being generated now threatens to overwhelm the ability of conventional software tools to capture and process the information in a rea-

sonable time. IBM, the technology and consulting group, calculates that every day 2.5 quintillion bytes of data are produced – a quintillion is 1 followed by 18 noughts – with the result that 90 per cent of the data in the world today has been created in the past two years alone. Alongside structured data, including sales figures and share price movements, is an increasing amount of so-called unstructured data, such as emails, posts to social media sites, digital pictures, videos and text messages.

Rashmi Joshi, assistant director forensics and fraud at Ernst & Young



Key facts: insurers will need to start assessing driving performance data Dreamstime

UK, says: "Organisations are only making use of 20 per cent of the total data available. Most of the unstructured data are not being analysed yet. There is only a limited number of technologies to sift through it."

Edwin van der Ouderaa, managing director in financial services analytics at Accenture, adds: "A lot of what financial services organisations are doing is actually normal analytics. Big data is a question of petabytes [10 to the power of 15] and exabytes [10 to 18] of information and the technology you need for that is very different. I have not seen a lot of banks that have

introduced big, mature applications."

Steve Shelton, head of data services at BAE Systems Detica, thinks investment banks are farthest advanced in using big data because "their business model involves good analysis and doing it fast. The retail banks are more focused on driving value out of the transactions and payments data they already have rather than mining series of unstructured data".

The insurers offering personal lines – motor and home insurance – have not had a need for a big data response, though the introduction of in-car devices to record driver behav-

our will provide masses of data that they will need to process, says Mr Shelton.

Much of the big data development work in financial services organisations has been focused on improving internal procedures of risk assessment and fraud prevention. However, there are some examples of companies that have applied data analytics to directly serving customers.

ZestFinance, a US lender to borrowers with poor credit ratings, used big data technology to assess its customers. People who took a long time reading its terms and conditions, established by tracking software such as cookies, were judged a good risk. The company has since moved out of loans but sells its analysis to other lenders.

Visa, the credit card provider, went into partnership last year with Gap, the clothing retailer, to alert customers by text message to discounts in nearby stores. With the customer's permission, Visa uses the data from its global transaction processing network to see where the customer last made a purchase in same district.

Although the banks process the payments that underpin these transactions, they face similar privacy issues to those that have caused problems for Google and other internet search engines, and it is unclear how they might benefit from the information they acquire.

There are also other barriers that have held up the sector's response to the challenge of big data. There is a shortage of the statistical, IT and data analysis skills needed to collect and interpret the information. These, in turn, need to be paired with detailed

knowledge of the business and context in which the data are to be used.

A further challenge is the fragmented nature of governance in many large organisations. Accenture's Mr Van der Ouderaa says a lot of these technologies cross barriers. "Departments such as risk, treasury and finance have to learn to work together."

Paul Thomalla, managing director for Europe, Middle East and Africa at ACI Worldwide, a supplier of electronic payment software, says: "The larger banks may have 20 or 30 differ-

20%

Estimate of the amount of big data being used by most organisations

ent methodologies for making payments. We talk to the banks about unifying their systems. At the moment social media are not even in the picture."

But others believe big data is becoming a tool for business. Joji Mathew, global practice leader for enterprise information management at Capgemini, identifies eight key areas for action, including sentiment analysis – for example, social media comments that can affect a brand, fraud detection and "next best customer action", tailoring customer contact to the last interaction, which may have been a complaint.

Lenders fail to capitalise on social media

Public relations

Sector needs to refine web presence, says *Sarah Murray*

A search on Twitter for the names of the world's biggest banks calls up plenty of expressions of dissatisfaction, if not outright hatred. Like it or not, banks have a presence on social media.

Yet, when it comes to their ability to be initiators, rather than the targets, of such communications, many argue that most financial sector companies lag behind other industries.

The launch this month of The Vital Few – a disclosure initiative helping ordinary people with pension accounts use social media to demand from pension funds greater transparency on carbon use and climate risk – underlines the pressure banks are under to engage widely with clients.

In some ways, their caution regarding social media can be forgiven. As part of a heavily regulated industry, banks have to tread a careful path when communicating with customers and clients. And, in many instances, regulation is simply failing to keep pace with technology.

'There is a legitimate reason why some banks are apprehensive about social media'

"Every message that banks and financial institutions have with clients must be audited," says Justin Peyton, director of strategy at LBI, a marketing and technology agency. "The audits and tracking they have to do is so severe, there is a legitimate reason why some of them are apprehensive about social media."

Financial sector organisations are not generally set up for the kinds of rapid responses demanded by social media in a world where users want responses in seconds.

Traditional banking communications have tended to take place face-to-face, in the branch or by phone, or have taken the form of one-way communications, such as advertising and account statements.

But the biggest challenge is not in the technology, but in change management, says Pierre-Yves Glever, head of consulting firm Capgemini's financial services global business unit.

Security fears are another barrier to greater customer interaction. "People have been trained to be careful with what information to reveal relating to financial matters," says Nathan Sage,

a social media expert at PA Consulting. "So even with a legitimate channel provided by a bank, there's a challenge as to whether or not people will use that."

Some banks are getting around security issues by using sites such as Facebook, but moving them to dedicated bank web pages when it comes to entering any security details.

Mr Glever believes this approach has potential, particularly for younger, more tech-savvy customers. According to data from BT as part of its Youbiquity research, 25 per cent of 16-24-year-olds would like to use video chat to speak to a bank. Even so, obstacles remain.

"Banking just isn't that interesting," says Mark Guinibert, a partner at KPMG Management Consulting. "If you're Sony, Nike or Apple, people want to engage."

By contrast, says Mr Guinibert, consumers wanting to find out about, say, the range of interest-only mortgages on the market, are unlikely to turn to banks for information.

Some banks have used social media to identify the interests of customers and offer them related deals.

Examples include American Express's "Link, Like, Love" Facebook application – allowing card members to link their cards to the programme, choose deals and have credits sent to their accounts for use in participating shops – and Bank of America's BankAmeriDeals – which allows customers to use a mobile app to choose deals at selected shops and restaurants and have cash automatically credited to their account.

Banks also use social media to engage consumers through sport or charity sponsorships. Chase, for example, has done this through its annual Chase Community Giving programme, in which the bank allows Facebook users to vote on which charities should receive a share of its philanthropic funding.

Banks are also using social media in other ways. For example, aggregation of data from Twitter can produce valuable information on market trends.

"There are some exciting things around predictability, giving banks an indication as to where a market might be going," says Mr Sage. "And banks are using social media to identify anything that shouldn't be happening, such as fraud or mis-selling."

But, when it comes to caring for their own reputations, Solitaire Townsend, chief executive of Futerra, a sustainability communications agency, believes banks are missing a critical opportunity. "Lack of trust and unhappiness with the banks rages across social media – but none of the banks are using social media to confront that."

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The Connected Business

Modern trends exacerbate security risks, warn experts

Threats The more organisations follow the herd in terms of the technologies they use, the greater the dangers, discovers *Jane Bird*

When Carnegie Mellon Researchers scattered memory sticks on pavements outside government offices and in car parks as part of an investigation into illicit cyber activity in US financial services, they got some amazing results.

Some 60 per cent of the picked-up sticks were plugged into office computers. For those sticks bearing an official US government logo, the figure rose to 90 per cent, according to a report published in July.

Such tactics, known as "pavement hacking", work, says John Skipper, information security expert at PA Consulting, because a surprising number of people are naive. "They succumb to their natural curiosity to see what information is on unchecked devices."

Such curiosity can result in data theft, sabotage and reputational damage. The costs of cyber crime range from an average annual \$3.3m for organisations in the UK, to \$8.9m in the US, says Michigan-based Poneman Institute, a research body.

Individual incidents can be much more expensive. Sony spent \$171m

recovering from the leak of 77m of its customer records last year.

The commonest type of cyber attack in the UK is denial of service, while US companies are more likely to be victims of ill-intentioned insiders, malicious code and web-based incidents.

Many attacks are unsophisticated. The Carnegie Mellon report found low-grade action over a long time caused most damage, says Mr Skipper. "Simple vulnerabilities were being exploited, for example by people whose access hadn't been revoked after being made redundant."

Technology trends such as outsourcing, cloud computing, social media and the use of personal devices for work are exacerbating security risks, so how can organisations protect themselves?

It is impossible to secure everything, says Richard Archdeacon, head of security strategy at HP Enterprise Security. "You have to take a realistic, pragmatic view rather than the old, blanket, one-size-fits-all approach."

This requires an overview that simplifies the picture and integrates organisations in the wake of mergers



and acquisitions. Risk managers and chief information security officers have an increasingly complex task because they must be part-technologist, part-lawyer and part-psychologist, says Mr Archdeacon.

They also need a grasp of compliance across multiple jurisdictions, because rules such as the level of password protection required for financial transactions vary from one to the next.

An important skill is the ability to understand how attackers' minds work, says PA's Mr Skipper. "You need people who can think as sneakily as the cyber criminals, and have the insight and expertise to test out their ideas."

Allan Boardman, international vice-president at ISACA, a worldwide association of security professionals, points out that lots of areas are still quite new in legal terms.

"If employees bring personal devices to work for use with corporate applications, their equipment can be seized for evidence in court," he says. "A device that is subject to a court order becomes the organisation's, including any personal data on it. But some of this is untested."

Overcoming the silo mentality prevalent in financial services is crucial to security, says Mr Boardman. People need to include risk from the beginning of a venture, rather than bolting it on later. "Too many slip-ups happen because product speed is everything when a business is under pressure."

The growth in outsourcing and cloud computing also creates security risks, says Rupert Alabaster, director of professional and financial services for BMS Group, an insurance broker.

Every time data are transferred, there is an opportunity for criminals, he says. "The problem is that, however robust an organisation's internal security, subcontracting data management to third parties reduces it to the weakest link in the chain."

Social media create further hazards as people often reveal sensitive information about past and present employers. Even just a name and company on Facebook or LinkedIn can be a trigger to a hack, says Mr Alabaster. "Citing IT projects or software you have worked on will help hackers find the loopholes. They are constantly trawling these sites to get clues for fast-track entry."

Employee handbooks need to warn

Hacked-off: understanding how attackers' minds work is an important skill

Getty

'Subcontracting data management to third parties reduces it to the weakest link in the chain'

staff of these risks, he says. Organisations should also have strict processes for deleting data from defunct devices. Apart from the risk of stolen data being misused, there can be significant damage to reputation.

When a computer discarded by Morgan Grenfell was found to contain famed musician Sir Paul McCartney's banking details, reputational damage was estimated at £10m to £12m. "You would be amazed at the number of obsolete servers still lying around with valuable data on them."

All this is partly about education and raising awareness – about dodgy memory sticks, for example, says Mr Boardman.

And money has become tighter, says HP's Mr Archdeacon. "Five years ago, banks were spending about 8 per cent of their IT budget on security. That's risen to 10 or 11 per cent, but now there is much stricter control of where that money is being spent."

Financial institutions are seeing their security problems more clearly, but investment banking and insurance have some way to go to catch up with the retail sector, says PA's Mr Skipper. "Retail banks are more aware of the dangers."

Institutions try to find cloud's silver lining

Systems management

Paul Taylor finds a growing demand for external hosting

Cloud computing – the common term for a company hosting computer resources, such as email storage, on external servers instead of on servers in its own premises – may bring profound changes to the banking and financial services sector.

"Cloud computing will increasingly provide banks with new lower cost operating models thanks to virtualisation, greater automation, and the ability to push more activities offshore," Accenture, the IT consultancy, said in a report this year.

"As these benefits are realised, banks will face decisions regarding the business case for moving legacy systems [such as data on existing internal servers] into the cloud or building cloud-enabled assets that they will then integrate into the legacy environment."

"Banks are already moving very aggressively to cloud and software as a service consumption models [in which programs are hosted in the cloud] for almost everything, usually supporting processes that are not mission critical and don't need to be managed within their own environment, things like human resources and procurement," says Don Trotta, global head of banking industry development at SAP, the software group.

"This allows them to reduce internal costs and complexity." But many are moving cautiously, in part because data privacy and security regulations in many countries prohibit storage and processing of customer data outside national borders.

Banks are also understandably wary of the potentially disastrous impact of a serious breach of security or privacy, or of even a brief failure in areas such as ATM operations, fraud monitoring or credit card processing.

"Many banks, therefore, take the view that they should keep their core banking processes under complete control in their own data centre so they know where the data [are] at all times," said the Accenture report.

Such caution is reflected in comments by Tom Durkin, global head of integrated channels for Bank of America. "Cloud computing is certainly something we are evaluating," he says.

But he adds: "There's a lot of focus on the security that goes with it. Obviously we're talking more about private cloud type infrastructure [which limits access and is protected by a security firewall] than public, but there's also lots of internal education to be

'The security of global public cloud providers may be stronger than that of many banks'

done to get your risk and your compliance folks educated on what this means."

But some newer banks have incorporated so-called multi-tenant cloud-based systems (under which software is provided for the use of many clients rather than for the use of an individual customer) into their core banking activities. Examples include the UK's Metro Bank and Sofol Tepeyac in Mexico.

Some US banks, including Atlanta-based SunTrust, are using the Varolii pay-as-you-go cloud-based voice



Banks are wary of data breaches in sensitive areas Dreamstime

dialler to call customers to remind them to make payments and prompt them to do so.

SunTrust says it has reduced the number of inbound calls to its call-centre, saved between \$8 and \$25 per call, and cut first payment defaults by more than 60 per cent.

Accenture adds that private cloud models are playing an increasingly pivotal role in core banking activities.

One example is Wells Fargo, the San Francisco-based bank, which touts the advantages of using cloud-like technologies to help steer the company through a three-year integration project following the \$15bn acquisition of Wachovia, the financial services company. "We think the cloud is here to stay, but not a public cloud," says Scott Dillon, executive vice-president.

Wells Fargo began by "virtualising" its servers – running software that enables multiple applications to run on the same server and still be managed as though each has its own dedicated server.

The advantages of this are much greater flexibility – you can add a virtual server for a new application almost instantly – and much more efficient use of the physical hardware. For example, 80 per cent usage of a server's capacity

instead of 15 per cent.

Additionally, by moving to standardised software – programs used by everyone – it effectively made a private cloud inside its own firewalls. This enabled the bank to reduce its number of data centres dramatically, cut the number of applications it was running by 25 per cent to 3,000 and decreased the time needed for starting up a new application server from months to 10 days.

By the end of last year, almost two-thirds of the bank's servers were virtualised and 80 per cent standardised.

As a result, Wells Fargo achieved \$1bn in savings with a significant portion attributed to its infrastructure efficiency effort.

"Because private clouds are not exposed to external 'tenants', banks tend to regard them as a more secure environment for customer data," notes Accenture, although the firm adds that, "in many cases, the security mechanisms put in place by global public cloud providers may actually be stronger than those in many banks' internal systems".

Over time, Accenture thinks that most banks are likely to follow a hybrid cloud strategy, which may also include a cloud owned by and located in the bank but operated by a third-party.

Investment houses jump on the apps bandwagon

Mobile devices

Specialists follow retail banks' lead, reports *Paul Taylor*

The speed with which investors and institutional investment managers have taken to portable computing devices has forced financial services firms to respond quickly or risk being left behind.

Most retail banks already offer mobile banking services, including in some cases the ability to check balances, transfer funds and make payments. Some banks, including Chase in the US, have gone a step further. Chase's mobile banking application is available for Apple iPhone, iPad, Android and BlackBerry handsets, and includes a feature called QuickDeposit that enables users to scan in cheques.

Generally investment banks are quite secretive about their mobile apps. However, beginning last year, a number of investment banks launched smartphone or tablet apps to promote trading and capital markets activity at a time of changing regulations and difficult market conditions.

Among them were Deutsche Bank, which announced 12 months ago it would begin offering research, trading and services, via an app store, modelled on those used for mobile phones and tablets.

Deutsche's app store gives clients the ability to call up a variety of banking services from one program, with apps such as trader commentary, research and post-trade services joining its existing Autobahn platform of algorithms and other electronic trading tools, which trades currencies and precious metals.

"After the financial crisis, we started noticing a greater emphasis on 'flow' products," says Serge Marston, managing director

at Deutsche Bank, at the time of the launch. "These products are more cost-effective, and much easier to mark-to-market, and that's where clients are moving," he adds. He points out that the Dodd-Frank reforms, which emphasise transparency in how derivatives and other products are traded and cleared, was leading to an increased demand for such tools.

"There is a view that there should be a greater level of transparency offered to market participants, and people associate transparency with electronic services," he adds.

Meanwhile, a number of other banks have begun giving clients access to trade execution and other capital markets services through mobile devices such as the iPad. For example, Citigroup launched an iPad app for issuers of securities, allowing them to track bids on equity sales as they come in.

Similarly Barclays Capital created an iPad app that includes its Barx electronic execution platform, and Credit Suisse has an app for its Merlin platform that executes foreign-exchange derivatives trades.

Some banks have used their own internal IT resources to build mobile apps but, given the specialised skills required, most have turned to external contractors. For example, eFinancialcareers, an online site that tracks jobs in the

sector, reported this year that Barclays, Deutsche Bank, HSBC, Lloyds, JPMorgan, Morgan Stanley, and RBS had all brought in teams of external developers to work on mobile app development projects.

The eFinancialcareers site noted in an article in April: "At this point last year, the majority of investment banks were looking to hire interaction designers, user-experience architects and developers to create trading apps for tablets and smartphones."

The same article added that UBS is believed to have

'People associate transparency in the markets with electronic services'

a team of about 30 people working on a trading platform for tablets and smartphones in London, using the services of RMA Consulting, a London-based digital design firm.

Investment management firms and brokerages are also jumping on the mobility bandwagon, designing and building and tablet apps clients can use to track their portfolios, verify transactions and, in some cases, to analyse exposure and risk.

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The Connected Business

Phones help level playing field for the 'unbanked'

SMS Jane Bird reports that across the globe the number of people who access basic financial services on mobiles is set to double

Few people in Ghana have life insurance because traditional policies – that require customers to fill in and sign forms – are too complex and expensive to administer.

Policies need to sell for less than \$1 a day to be affordable, says Dare Okondjou, chief executive of MFS Africa. Merely printing forms and getting them in front of clients would push premiums above that price.

Moreover, collecting payment can be laborious for policies paid by weekly or monthly debits.

This excludes the many people in Africa who do not have bank accounts. However, they often have mobile phones. So MFS has devised a scheme to provide life insurance via mobile telecom networks.

As all subscribers are registered, most of the information needed to underwrite insurance – such as name, date of birth and address – is already in the database, says Mr Okondjou.

By capturing these details electronically, administration can be reduced to a few text messages, enabling MFS to offer policies much more cheaply. Launched in Accra in March 2012, the policies are selling at the rate of several hundred a day, and MFS plans

to launch in Ivory Coast and Cameroon this year.

Such services could be provided in the developed world, but there innovators tend to focus more on the internet, tablets and smartphones, says Mr Okondjou. "We started with the phone in Africa because that is what we have."

The ubiquity of mobile phones in the developing world is creating a huge market for financial services.

In Azerbaijan, the mere use of SMS messages for transaction confirmation is coaxing business and private wealth clients into conventional banking, says Farid Akhundov, the chief executive of Pasha Bank.

"There are still many people who keep their money under the mattress, and small businesses that prefer cash to bank accounts," says Mr Akhundov. Mobile-based services are one way Pasha hopes to change this.

Although 100m people worldwide have begun using banking-type services – referred to as "banked" – using mobile technology in the past 10 years, the GSMA, which represents mobile operators, points out that 2.5bn adults still lack access to formal financial services such as savings, payments, loans and insurance.

Talking telephone numbers: the popularity of mobile phones in Africa has helped more people to become 'banked'

As an illustration of the quickening pace of the growth of services using mobile technology, UK-based Juniper Research forecasts that the number of newly banked people will double this year to 200m.

Hannes Van Rensburg, chief executive of Cape Town-based Fundamo, a mobile financial services company acquired last year by Visa, says the banks they join are not traditional ones with branches. Instead, they use local agents – typically shopkeepers or small businesses – to pay cash in and take cash out using their mobile phone accounts as digital wallets.

"In effect, they have bank accounts, but they don't think of them this way," Mr Van Rensburg says. "They see them more as a replacement for cash. The agents are effectively human ATMs."

Customers can also make payments on the spot or send money over long distances. It is more secure than cash because the money cannot be lost or stolen. When handsets go missing, accounts can be frozen.

People can have their salaries paid into their phone accounts directly, and in Cameroon, for example, they can borrow against their salaries. "It's an overdraft done in a different way

because the employer has to sign up," says Mr Van Rensburg.

Moving people away from the cash economy has huge economic benefits, because it makes business more efficient. The ability to present and pay bills, or receive micro loans, is taken for granted in countries with typical banking infrastructure, says Nick Wilde, managing director of Asic-Pacific for Fiserv, a financial technology company. "But these services can lift GDP by more than 1 per cent in the developing world."

Banks are under pressure to provide such services, because of the competition they are facing, Mr Wilde says.

"In the Philippines, the two largest competitors on payment networks are the telcos (telecommunications companies), Smart and Global Telecom. "This means a large proportion of the population has joined the banking world through a telco and may never leave it," says Mr Wilde.

"These are people that the bank doesn't know or have access to, which is a significant lost opportunity for revenue."

As customers become more prosperous, they are more likely to move to conventional banks, but banks will have to fight hard with each other to

win the clients, says Mr Wilde. "If they had a proper strategy for banking the unbanked, they could not only make money by doing good, but gain clients who will buy more services as their prosperity grows."

Even in developed markets, there are many people without bank accounts. This happens because services are too expensive, or people belong to a segment that banks do not want to work with, such as immigrants.

"These customers are looking for alternatives to banks at a time when consumer confidence in traditional institutions is low," says Ed Chandler, chief executive of CQR Payment Group.

CQR provides a service that lets customers turn cash into electronic money on a prepaid card, voucher or mobile phone. The service is being introduced across Europe.

In 2013, Mr Chandler also plans to introduce account numbers and sort codes that will let customers transfer funds in and out of their card accounts automatically, at participating supermarket checkouts for example, and they will be able to pay standing orders and direct debits using them.



Moving people away from the cash economy has huge economic benefits

Cull old records to avoid legal 'smoking guns' in the archives

Law and business

Stephen Pritchard considers the perils of too much data

Apple's court battles with Samsung over the design of the iPad and the iPhone are notable on several levels. These include the complexity of the case, Apple's \$1bn damages award, and the fact neither side seems willing to let the issue lie. The latest twist is that Samsung has asked for a re-trial over claims the jury foreman did not disclose his involvement in certain previous legal cases.

One aspect of the case that has received less public attention regards the preservation of possible evidence. Both sides were accused of "spoliation", or not retaining, electronic evidence, something not disclosed to the jury.

Experts say disturbing with or destroying electronic evidence is increasingly commonplace. And, such are the complexities of modern data storage, a company can damage evidence unintentionally without knowing it.

Questions of when and how to preserve electronic evidence go far beyond patent cases, with regulated industries, and financial services in particular, generating vast amounts of electronic data. As well as courts, regulators and consumer protection bodies are also demanding access to electronic data.

"Financial services is the dominant source of disclosure material," says

Laurence Lieberman, a partner at law firm Taylor Wessing. "The proliferation of electronic material has expanded the universe of potentially relevant material [in trials], and courts are grappling with the increasing volumes of information before them."

In the UK, the Jackson reforms of civil justice, set to come into force in April 2013, aim to set limits on the rising cost of electronic document disclosure in legal cases. The cost of discovery will have to be "proportionate" to what is at stake in the case. In the US there are fewer limits either on the scope of e-discovery requests or their costs.

This raises some very real challenges for businesses, especially as the scope of electronic information requests is widening.

E-discovery requests are no longer limited to static electronic documents or emails, but can cover information from transactional systems, from trading to financial management, social media, or even recordings of phone calls. "We are seeing requests for audio data, social media data, even data from [personal] devices," says Sanjay Bhandari, a partner in the fraud investigation team at Ernst & Young.

"Using electronic means to transmit business information means it is unavoidable," agrees Frances McLeod, a co-founder of Forensic Risk Alliance, an investigations company.

For business this can mean rising costs, more management and staff time spent on discovery requests, and even raises the question of whether a company

is complying with requests at all. The problem is made worse because of the ease of storing and copying electronic information. Often it is easier to keep information than dispose of it. But that information, in the hands of an adversarial lawyer, could turn into a "smoking gun".

Financial services organisations are responding by looking more carefully at their arrangements for record keeping and custody of potentially sensitive documents, especially where a court has made a discovery request or one is likely. But businesses also need to consider how much information they are keeping, for

\$1bn

Amount awarded to Apple in Samsung court case

how long, and whether they really need to do so.

This, according to Peter Robinson, head of e-discovery at Deloitte, should go beyond just e-discovery requests and extend into the wider policies a firm has around its data and document management. "You should ensure your record management complies with regulations, but once you no longer need a document, you should get rid of it. The idea of 'defensible disposal' has to be part of the target operating model."

Businesses can, though, turn to technology to help solve a problem that, at least in part, technology has caused. Tools such as

corporate-wide search and archiving, as well as more focused automation tools, such as electronic early case assessment (ECA) can save costs and time.

"E-discovery is forcing people to use more technology but also better technology," says Taylor Wessing's Mr Liebermann. "The more effective these tools are, the easier it is to find the key matter of a case."

Christian Zeunert, head of e-discovery management at Swiss Re, the reinsurance firm, which has used ECA technology from technology vendor Recomind, says: "Cutting out clearly irrelevant data via ECA is a key concept both from the US and the European perspectives."

"On the one hand it helps US counsel to get quickly to relevant data supporting an early disclosure," he says. On the other, European data protection requirements can be addressed.

But technology alone should not be a substitute for good records management, and a good system of custody for evidence, once a court, regulator or even a consumer starts a case. Without proper policies in place, firms will incur unnecessary costs, and might even hand a legal advantage to the other side, warns Steven Stein, managing director in the US forensic technology practice at KPMG.

"It is dangerous if you are using technology to search and you are not restricting that search to specific witnesses or to the department that is the subject of an inquiry," Mr Stein says. "You will come up with too much information."



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