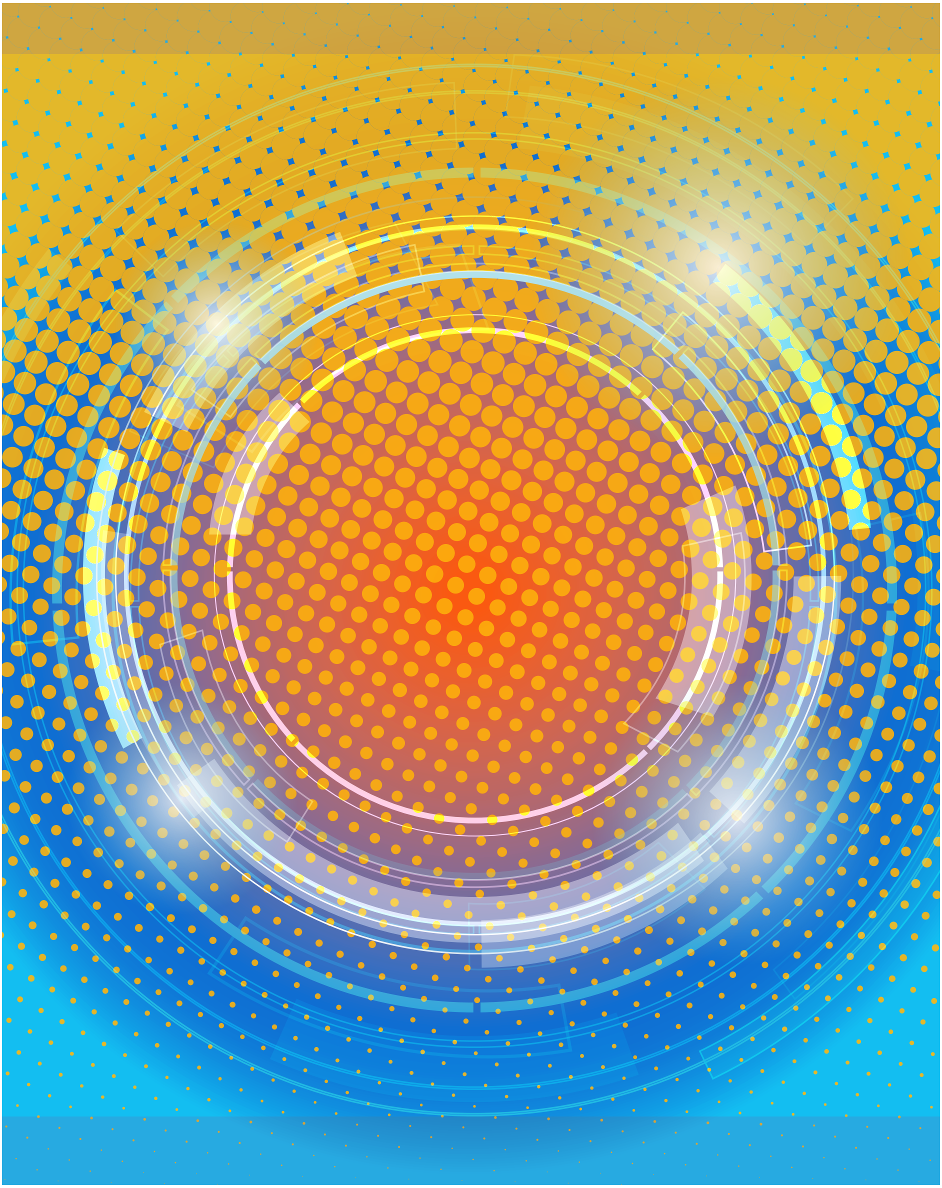
Brickendon Journal 10

BRICKENDON



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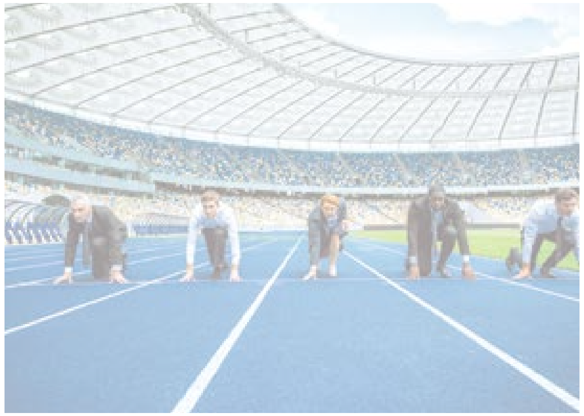


Nathan Synder, Executive Director
BRICKENDON CONSULTING

BRICKENDON PACE

In July I relocated to New York to open Brickendon Consulting's US office. Normally this would be the point where I explain the months of deliberation that took place at Brickendon board meetings to make this decision and prepare for a successful launch. However, that would be ignoring a key concept: 'Brickendon pace'.

Many organisations talk about change in terms of the 'aircraft carrier' analogy. Typically change is seen as a long endeavour that requires time to build consensus and even more time to implement. 'Changing direction is like turning an aircraft carrier, it takes time.' A little research shows this to be a fallacy. Modern aircraft carriers can make 180 degree turns at speed in minutes. BUT they take seven years to build. That's seven years of a shared vision with everyone pulling in the same direction. Consensus already exists and the organisation is tuned to respond quickly.

Brickendon first discussed the idea of international expansion at our February board meeting. By March, we had completed comparative analysis and approved a business case for an office in the US. By July we were operational with staff on the ground, an extensive network and active revenue streams. This is what I mean by 'Brickendon pace' and what makes working here such an exciting experience.

I am really pleased that we have now reached our 10th Brickendon Journal, having started just three years ago writing articles for Journal 01. Brickendon now publishes our consultants' thought pieces across the financial press and our journals now represent a collection of our most recent published work. I am grateful to our consultants who continue to share their expertise and insights and to our Knowledge Leadership team who steward, edit and publish ceaselessly.

Brickendon continues to innovate and expand at 'Brickendon pace'. Be prepared for unpredictable change!

IT'S ALL ABOUT THE RECOVERY

Richard Warren

Recent history is littered with expensive failures. Whether it's the UK National Health Service's abandoned patient record system that cost the British taxpayer an estimated £10 billion, the scrapping of the US Airforce's Expeditionary Combat Support System at a cost of $1 billion or the failure of RBS to launch Williams & Glyn as a standalone high-street bank, the story is the same. A new initiative was embarked upon, things didn't quite go to plan and stakeholders failed to take responsibility and turn the project around. As a result, the project was halted causing significant financial loss.

"A successful project achieves its business benefits, optimises costs and has satisfied shareholders"

In theory, the aim of a financial change programme is to improve efficiency, boost profitability, or reduce costs. In practice this doesn't always happen, and it is commonly accepted that nearly three quarters of all such initiatives fail to achieve their aim, either delivering late or coming in over budget, under scope or under quality.

"Projects fail for a variety of reasons," says Brickendon Executive Director Nathan Snyder. "The key is to know the warning signs and act quickly."

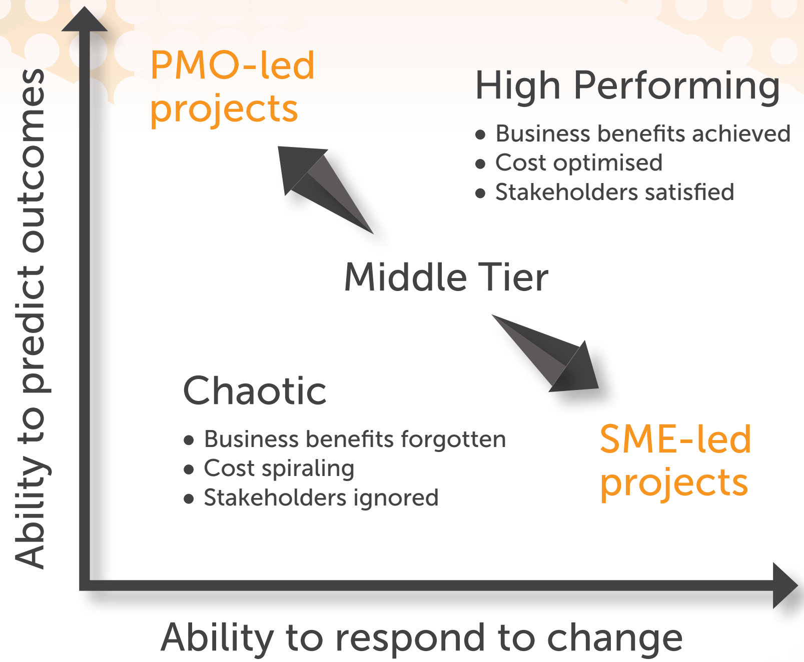
"Often projects can fail simply through lack of management support. Negative perceptions come into play and before you know it, a programme has been re-routed and re-named without the root cause being addressed."

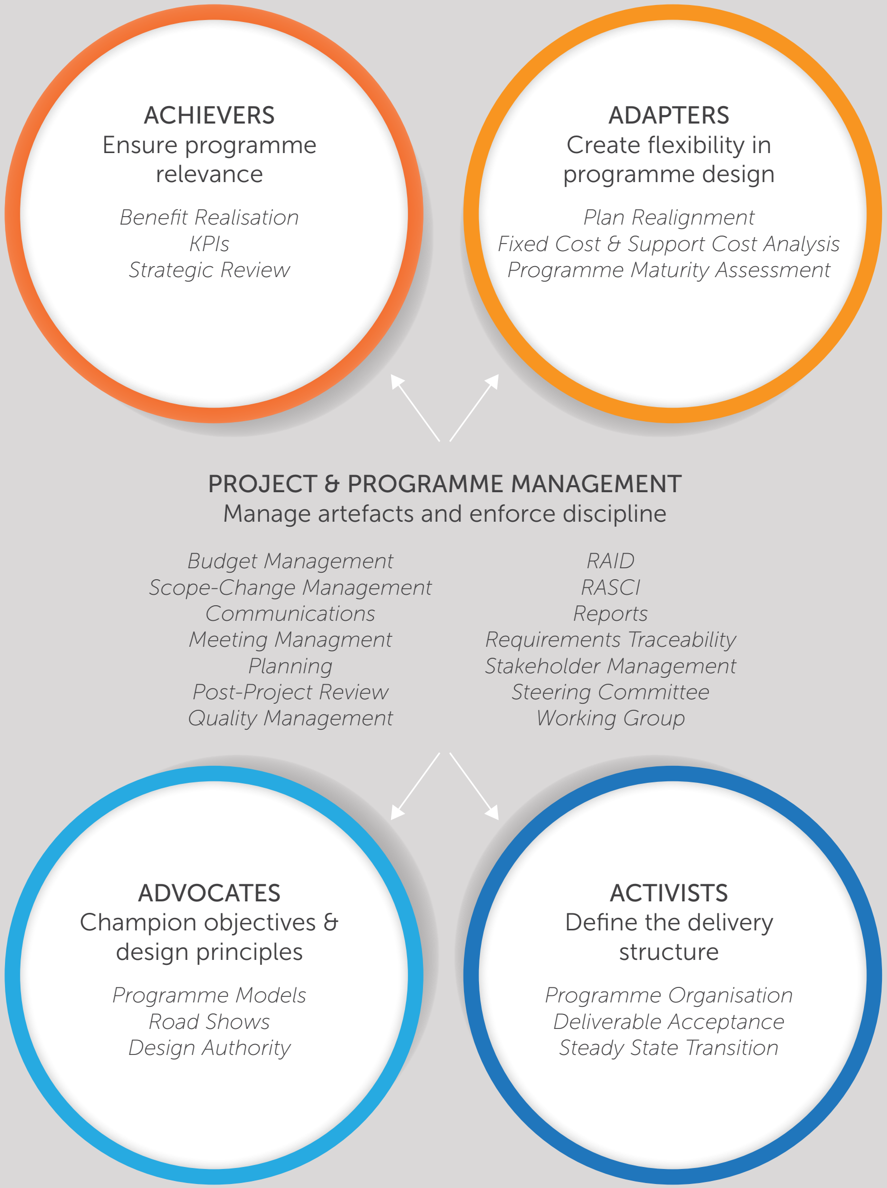
One of the key challenges for project teams, according to Snyder, is to balance the ability to predict outcomes and the ability to respond to change. He believes teams rarely get it right. The key however, is to ensure you have the right people in the right roles, that the scope is clear and that the benefits you are trying to achieve have been communicated to all. Tasks must be clearly defined, standards consistent and stakeholders not only fully engaged, but also realistic as to the expectations of the project.

A successful project achieves its business benefits, optimises costs and has satisfied stakeholders. By contrast, when business benefits are forgotten, costs spiral and stakeholders are ignored, a project is not only less likely to succeed but is also difficult to turnaround.

In order to help a project along the path to success, it is necessary to look out for several key warning signs, says Snyder. The easiest way to do this is to focus on the following questions:

- Are we still on course to deliver the relevant solution to the business objectives?
- How on track are we to deliver within the required timescales and be ready for key events?
- How clear is resource contention between our project and others in the business?





- What is the impact of company-wide recruitment policies and other cost-control measures?

- Does everyone in the project (from business stakeholders to developers) understand the business case, current status and key risks?

Where any of the answers are in the negative, the key is to address them quickly and attempt to get the project back on track. Documented evidence should be gathered on architecture, governance, programme context and risks, and a programme recovery plan put together to include project and programme management, activists, achievers, adapters and advocates. The key to success, according to Snyder, is to nurture these roles.

"Approach all stages of every project with open eyes and the open mindedness to be able to change the course..."

"By adopting innovative project approaches, it is possible to accelerate programmes by a factor of up to 12 times and even reduce project resources by as much as a third without impacting scope or time-to-market," says Snyder.

One of the key issues at any stage of any change programme, but particularly when things are not going to plan, is communication. All stakeholders need to know what is happening and, if there are any problems, what is being done to deal with the issues.

There is no doubt that excellence is key to success, particularly in delivery, perception and team spirit. It is however also accepted that this is not easy to achieve. The main thing is to approach all stages of every project with open eyes and the open mindedness to be able to change the course of the programme should the need arise. After all, it is never too late to get your programme back on track.

FRAGILE RELATIONSHIPS: HOW BANKS ARE MISSING THE MARK WITH MILLENNIAL CUSTOMERS

Bryan Adare

Millennial consumers, those born in the 1980s and 1990s, have been in the sights of marketeers for some time now. The proliferation of new mediums with which to advertise to this tech-savvy community has helped build some of the largest companies on earth, and transformed how the advertising market is structured. The change in atmosphere for advertising and end-user customer-service firms has been substantial, but not all businesses have kept pace.

The banking sector has for the most part ignored the needs of this constantly-connected, hyper-technical customer segment. In many ways the industry is seen to be stuck in the 20th century, more closely aligned with the bricks-and-mortar branch on the high-street than the coveted giants of technology to whom the millennials assign much of their respect.

This perception of banking is one of the largest risks banks face, and represents a massive opportunity for disruption from an agile competitor from inside or outside the industry.

Given that in five years' time millennials will have reached a critical mass in the consumer market, now is the time to start addressing the issue and ensuring that new market disrupters aren't given the opportunity to take over.

The key here is relationships. As a group, millennials have unique relationships with brands and the way they interact with them is unprecedented in the consumer market up to now. From a banking standpoint, it appears as though most banks and financial institutions are missing the mark. A study completed as part of the "Millennial Disruption Index" has shown that more than half of all millennials believe their bank offers nothing different or advantageous to a competing firm. One-in-three would switch banks in the next 90 days if there were a compelling reason to do so; and close to three-quarters said they would be more excited about a new financial services offering from Google, Amazon, Apple or PayPal than from their own bank.

This is where banks need to watch out. The market is already changing thanks to the arrival of Apple Inc. in the contactless payments market. By leveraging a first-to-market advantage, Apple Pay now accounts for three-quarters of all contactless payments made in the US.

Apple's ability to capture market share and revenue from transaction processing fees, has been, in part, due to the US banks' slow rollout of contactless cards, and their seeming disinterest in adopting technology which while enhancing customer interaction, provides no immediate revenue opportunities for themselves. The speed at which this has occurred over just the last two years, is indicative of what can happen to financial institutions when they sit idle in a changing market and consumer focus.

"Banks should adapt to the new realities of the situation they are in"

So what are banks to do in this mass reshaping of their core consumer base?

The answer is that they will have to adapt to the new realities of the situation they are in, and of the new competitors with whom they now share a no-longer mutually exclusive market. In order to better engage with millennial customers, banks should:

- Shift their strategy to match what millennials expect and offer innovative products and service types which are unique in the market

- Communicate these changes and other information with their consumers through appropriate channels and platforms

- Ensure a transparency in pricing and charges that has in the past not been evident, especially where a sector has previously been tarnished with scandals and mis-selling

- Embrace technology and provide innovative products at competitive and transparent prices

As well as looking at how to better engage with their customers, financial institutions should take the opportunity to look internally into their own organisation for ideas and solutions to the engagement issue. Many banks employ their own millennials at relatively high levels and could use this resource to their own gain. After all, it is unlikely to be a coincidence that the technology companies that millennials most engage with, employ, and are often run by, peers who are millennials themselves.

"Embrace technology and provide innovative products at competitive and transparent prices"

Finally, there is the issue of regulation. Banks are no strangers to regulation and are used to being restricted in what they can and can't do. The same can't really be said for technology companies, and this may be where the disconnect lies. Distributing classified information via an app or a mobile device is all well and good, but there are significant rules to follow as to how this can be done.

Combining the technological desires and innovations of the millennial world with the security and regulatory restrictions of the traditional banking sector is without doubt a challenge, and one to which a solution is yet to be found.

TEAMWORK – DOES IT COUNT FOR ANYTHING?

Claire Shoesmith

"Two or more people working together to achieve a common goal."

That, according to the Oxford English Dictionary, is the definition of a team.

While the idea of belonging to a team, and the success of that team, is obvious in situations such as the Olympics or other sporting events, it can sometimes be a hard concept to grasp, and even harder to quantify, in the financial services sector. Most workers are labelled as part of a collection of staff and most are working towards a specific goal, but the range of roles, skills and egos within that pool of staff can make the concept of teamwork a difficult one to realise. Add to that the fact that many institutions are now requiring people to work from home one or two days a week in order to reduce costs and that teams are often spread across different geographical locations, and

the challenges are multiplied further.

But why do we care? What are the benefits to the financial services industry of working as a team and do you get the same benefits if the team is dispersed?

"The rapport a team builds when they are in the same office working on the same project can be crucial," says Naomi Crawford a director at Brickendon. "When there is a last-minute requirement which requires late working, this rapport brings the team together and helps them stay motivated to achieve the required result."

Like most aspects of teamwork, the impact of all members being in the same location is difficult to quantify, and as Crawford admits, there are arguments for both sides.

"By members of a team never being in the same office, it is difficult to build the rapport, which is key for a high-performing team," she says, adding that the benefits of team social events, be it breakfast or drinks after work, should never be underestimated.

Building a relationship without actually meeting the individual concerned can be difficult and face-to-face contact can improve the relationship building a hundred-fold, says Crawford. Even Skype or an equivalent video conferencing system doesn't allow for the same personal touch – facial expressions can be missed, video and sound lag can introduce an element of awkwardness, and you also don't get to see how employees interact in a work context.

In addition, it's important not to forget the networking possibilities that are on offer in an office situation, where you can easily bump into a colleague you haven't seen for a while and re-kindle an old connection that could prove useful in the future.

However, with the focus on cost-cutting and real estate costs in high-cost locations estimated at around £5,000 a year for each full-time member of staff, it is not surprising that some institutions are promoting the idea of working from home. This frees up desk space and allows the firm to employ more staff to ensure the timely delivery of projects without having to increase desk or office space.

"Working from home can be beneficial and result in a much more productive day, as you face less interruptions and generally work longer hours because you are not having to commute," says Crawford. "It can also increase motivation as it reduces staff stress levels and sickness." Brickendon Executive Director Dean Gammage agrees, but adds that it is important to recognise that the success of working from home depends on the type of work being performed and the role of the individual concerned.

However, while it may keep real-estate costs down, allowing staff to work from home does increase costs in other areas, though as with the benefits, most of them are difficult to quantify financially.

One of the main concerns, according to Crawford, is the risk of losing team dynamics. This can be mitigated by the fact that in banking most staff work at home for only a day or two each week, so the goals they are working towards and the standards which are required, can be easily maintained. Anything longer than that could be a problem as the corporate culture and team expectations may not have been set.

"There is no reason why a dispersed team can't be a successful team"

Trying to reset these goals and standards remotely is a challenge and can lead to issues with performance and staff development. There may also be requirements for development which are not visible when working from home, such as time management, verbal communication and prioritisation of tasks.

These are all intangible costs, which could in turn result in higher hiring costs, increased staff turnover and a general feeling of malaise across the company. They will cost the firm in the long run and need to be managed carefully to ensure working from home is seen as a positive message for staff and that trust from both sides is part of that message. Provided this is done, there is no reason why a dispersed team can't be a successful team.

This brings us nicely back to the idea of a team, and how important a team is in the financial services industry. Teams are the cornerstone of all success and as the saying goes, there is no 'I' in team. How firms manage team dynamics is crucial for both motivating staff and keeping the loyalty to the firm and this is something which needs to be constantly monitored and assessed.

In this age of relentless regulatory-driven deliverables, how much emphasis do firms give to the art of building teams that can sustain themselves and meet those demands? How often are teams less than the sum of their parts rather than more? Maybe now is the time to address some of these issues and set your business on the path to success.

OLYMPICS – CAN BANKING EMULATE THE SUCCESS OF THE BRITISH OLYMPIC TEAM?

Claire Shoesmith

The British Olympic team made history this year, racking up a record 67 medals in Rio and beating China to second place in the number of gold medals won. At an estimated cost of £5.5 million per medal, the push for sporting prowess was not a cheap one. It was however one that had been long-in-the-planning – 20 years to be precise - and very carefully thought out.

As far back as 1996, our then sports-loving Prime Minister John Major decided to address the dismal performance of Team GB at the Atlanta games by insisting that lottery funding should be focussed on performing better next time. Sixteen and 20 years later respectively, the London and Rio Olympic Games were the harvest of that seed.

"The long-term planning seen in the Olympics team is unheard of in the banking industry"

By contrast, in a similar 20-year period the financial sector has lurched from one issue to the next, dealing with the bursting of the dotcom bubble, a mass reduction in headcount, disputes over bonuses and the global financial crisis, to name but a few. With so many so-called black swan events – in many cases unexpected, and in all cases unplanned for - the long-term planning seen in the Olympics team is unheard of in the banking industry.

So if there is proof that taking a longer-term view equals a better chance of success, why don't we approach things in this way? And if the banking industry was able to take a longer-term view, would the sector look very different?

Back in 2013, Manchester United Manager Sir Alex Ferguson and Diageo Chief Executive Paul Walsh both retired. They were two of the longest-serving football managers and company chief executives of modern times, with 27 and 12 years at their helms respectively. During Walsh's time in the top job, he steered the drinks giant from reliance on Guinness and Smirnoff into faster-growing, emerging markets requiring edgier products. Diageo's shares nearly quadrupled, adding £30bn to the firm's market value and £12bn was paid out in dividends. In the same vein, Ferguson's 27 years at the top allowed him to win 13 English premiership titles, two Champions League crowns and five FA Cups. Such success would be hard for any individual to achieve in a bank, where the average chief executive stays just 4.8 years.

So how can we instil a longer-term focus in a bank where the individual who instigated the change or investment plan will most likely not be there to see the fruits of their planning?

"The issue is the lack of incentive for the decision makers in the banking industry to take this longer-term viewpoint," says James Li, a principal consultant at Brickendon. "In all likelihood, the director with ultimate responsibility for any particular investment or turnaround strategy will have left by the time the rewards are being seen."

In the Olympics world there is the added

advantage of patriotism and national pride. The leaders and participants alike have a sense of belonging and a desire to do well for their country which is absent in the banking industry, where there is a constant turnover of senior positions and change in strategic implementations. Even when new staff come in, there is a tendency to unnecessarily change the direction of certain investments in order to be seen to be being proactive. This is not always the most sensible solution.

Moreover, at more senior levels, the feeling of short-sightedness has in the past been exacerbated by the traditional bonus system offered to company executives, who are rewarded for company performance as part of their annual remuneration.

"The question is whether we can achieve something akin to the Olympic incentives in banking," says Li. "It's about developing a culture that staff and executives alike buy into, where they are focussed on what is best for the company."

"This opens up the question of whether banking investment should be more targeted"

Li adds that this is difficult to achieve when many people see working as a chore and the traditional bonus system appears to encourage short-term views. Why wait around for 20 years to see if the investment programme is successful, when a healthy bonus is paid out after a year or two provided certain interim targets are achieved? Things are however starting to change, with many executive bonuses being delayed and aligned with certain metrics being achieved in the future.

Another thing that helped the British Olympic team was its decision to focus investment in particular areas, whether it was those where they believed they had the raw ability to nurture, or those where they had the knowledge, skills and training plans to develop. After beating its medal target at the games in London in 2012, British gymnastics saw its funding rise to £14.6m in the current cycle from £5.9m at Sydney in 2000. The result, was Britain's first gymnastics Olympic champion for 116 years.

"This opens up the question of whether banking investment should be more targeted," says Li. "Many banks have become very big institutions and perhaps need to limit their focus in order to be more effective."

This also brings up the issue of performance evaluation. Statistics are now being used much more in sport to analyse, and in turn improve, performance. "The key is to identify the areas where you can improve, and then to use this information to target improvements or investment with the aim of enhancing productivity," says Li.

In today's era of big data, more and more numbers are produced and collected during day-to-day processes. How to analyse performance, produce effective metrics, assess return on investment and make future funding allocation decisions remains a key challenge for today's business.

Still, the question remains as to how best to identify the most appropriate investment opportunities in a business, and more importantly, how to incentivise consistent behaviour for a longer-term target. In order for the traditional banking investment time scales to be lengthened, guidelines need to be established to maintain competition. One possible solution is for the regulator to require investment in certain time blocks under the guise of investing for the future. But whether firstly the banks would listen to this, and secondly the regulators would want to become involved in this, is something that remains to be seen.

CERTIFYING BCBS239 COMPLIANCE

Richard Cryer

In January 2013 the Basel Committee on Banking Supervision published their "Principles for effective risk data aggregation and risk reporting", commonly known as "BCBS239" or "PERDARR". Global Systemically Important Banks (GSIBs) were given until the end of 2015 (now extended to 2017) to implement the necessary capabilities and change to demonstrate compliance. This requires implementation of complex requirements like single identifiers, integrated data taxonomies and reconciliation to source.

"A key element of compliance is the ability to certify and capture the work and its impact"

Regardless of the approach taken, a key element of compliance is the ability to certify and capture the work and its impact. Senior Managers in the UK are now personally accountable for a bank's compliance through the application of the Senior Managers Regime and will be responsible for ensuring compliance with the principles of sound risk data reporting. As such, C-suite executives are now looking for reassurances in the robustness of their compliance.

Viable solutions for this include a validation of the bank's control environment, data operating models and effective channels of governance linked directly to the bank's risk data aggregation and reporting and risk management/appetite framework. This framework can be applied by users in a low-cost location and mapped to any existing capability or compliance framework. It can also be applied by second and third lines as part of their independent validation. A robust implementation would include the following testing aspects:

Business artefact quality assurance – A set of quality standards by which all BCBS239 artefacts for compliance are tested, including the bank's existing standards for logical data modelling, process mapping etc. This assurance includes identification of the artefact owner and the roll out into business-as-usual (BAU), before claiming compliance.

Attestation – Accountable Executives and Senior Managers (Risk Leads) must attest to the level of compliance for their risk domain. To achieve this, the quality of data needs to be suitably high, no major audit points without remediation in plan, no identified weaknesses in control environment and sufficiently adequate service-level agreements.

Metrics – It should be relatively easy through profiling activities to measure data. However, the bank should demonstrate progress against defined compliance metrics such as reporting timelines, risk held in end-user developed applications (EUDAs), and reconciliation breaks or number of adjustments.

Business outcomes, benefits capture – Each compliance-related capability requires a definition of the related business benefits beyond compliance itself. This might include reduced training time, cost reductions through

data efficiencies, more views on data slices, or faster responses. One important element is that compliance-change activities might well live outside the compliance programme and so all dependencies of other programmes delivering compliance benefits must be mapped.

"the key to compliance is in demonstrating the implementation and impact of the approach"

Maturity models – Each compliance-related capability also requires a level of current and desired maturity that can be defined and tracked. For example, an operating model may be designed, however it could be implemented for some data stores but not rolled out and tested across all material data sets.

Deep-dive testing and BAU embedding – Principle, paragraph, sub-paragraph and term validation and testing against artefacts and capabilities. This serves as a reference manual for any interested parties and maps-related artefacts and capabilities directly back to the paper, applying a rating to each to drive out gaps and provide a full view of the bank's compliance.

Regardless of the approach taken to BCBS239, the key to compliance is in demonstrating the implementation and impact of the approach. So now is the time to get prepared and ensure all parts of your business are doing the right thing.

TURNING CHANGE TO YOUR ADVANTAGE

Nathan Snyder

Regulatory change is here to stay. Banks now exist in a constant state of regulatory change, with many banks turning their technology regulatory teams away from a project focus to an operations focus. The thinking goes that since regulatory change is here to stay, a lean, experienced team will reap benefits in reducing 'Change the Bank' (CtB) costs when responding to regulations.

In the early days of technology change this approach was largely successful. A significant part of the technology focus was on trade reporting, and technology solutions could be leveraged to respond to multiple regulations. However, the far-reaching consequences of BCBS239, MIFID 2, IHC and PRA Structural Reform have required a different approach to regulatory change. Smart banks have already started approaching each regulation with the following questions.

Can we profit from the regulation?

Some banks have turned regulatory compliance into revenue opportunities. This includes winning new clients by offering technology services to help them comply with their share of the regulatory burden.

Can we reduce our run the bank (RtB) costs?

Banks with strong design authorities and clear technology architecture direction have used regulations as a means of reaching their architecture end state. Creating shared platforms and reusable data feeds are just two examples.

Can we unify our processes?

The effort involved in coordinating releases across multiple teams has allowed organisations to streamline their testing and release processes. The resource savings from the increased efficiency and reduction in production defects can be significant.

Can we achieve new insights into our current state?

The need to design solutions across legacy platforms is a fantastic opportunity to better understand some of the perennial issues that large organisations face. Whether this is the utilisation of hardware or the updating and/or creation of a technology service catalogue, the information is a vital tool to drive further efficiencies and combine intellectual property across distributed teams. It is also a chance to innovate across the entire infrastructure.

Regulatory change is often managed as a cost centre with little holistic benefit. Too often the strategy can be resource-intensive delivery combined with costly regulatory negotiation. In the worst cases, functionality is reduced and banks withdraw from marginal markets. The smart banks are taking a different approach and turning regulation to their advantage.

IF YOU WANT TO TEST IT PROPERLY, CONTAIN IT....

Richa Walia

In life, no two situations are the same, or so the saying goes. The same can be said for testing environments. Test something in one, it works. Test it in another, it doesn't. The key is consistency.

"Ensuring software runs perfectly when moved from one computing environment to another can be problematic," says Bala Ethirajalu, senior manager and head of testing at Brickendon. "Whether it's from a development environment to test, from a staging site into production, or a physical machine in a data centre to a virtual machine in a cloud, the situations are always different."

Introducing Dockers. Dockers is a container that wraps a piece of software in a complete file system that contains everything needed to run it – code, runtime, system tools or libraries; basically anything that can be installed on a server. In short, it containerises the application platform and its dependencies, removing any differences in operating system distributions and underlying infrastructure.

In one way Dockers looks very much like virtualisation. With virtualisation technology the entity involved is a virtual machine which it includes an entire operating system as well as the application. A physical server running three virtual machines would have a hypervisor and three separate operating systems running on top of it. By contrast, Dockers runs on a single operating system and a server running three containerised applications with each Docker sharing the operating system (OS) kernel with the other Dockers. Shared parts of the operating system are 'read only' and each container has its own way to access the container for writing. As a result, the containers are much more lightweight and use far fewer resources than virtual machines.

"Dockers has a huge potential to save millions and it's not just the infrastructure costs," says Ethirajalu. "A stable integrated environment means highly-productive development with all interfaces on board and seamless testing. This will lead to robust and safer production releases, which can in turn, save reputation."

So what are the benefits of using Dockers?

Firstly size. A container can be just tens of megabytes in size, whereas a virtual machine may be several gigabytes. As a result, a single server can host far more containers than virtual machines.

Secondly speed. Virtual machines may take several minutes to boot up their operating systems and begin running the applications they host. Containerised applications can be started almost instantly.

Thirdly, and probably most importantly, is versatility. The same Docker configuration can be used in a variety of environments, effectively decoupling the infrastructure requirements from the application environment.

"Allows multiple servers to be consolidated and hence saves money"

"The freedom to run your applications across multiple configurations without any extra tweaks is the ultimate dream that Docker can help achieve," says Ethirajalu.

Traditionally, code has to travel through many different environments as it moves from a developer's machine to production. Each of these may be slightly different, making replication difficult. Docker provides a consistent environment for the application, easing the code development and deployment pipeline. Each Docker can be shared across the development, test and UAT teams as applicable and available.

Furthermore, there is the issue of cost. A development environment should be as close to the production environment as possible. In order to achieve this, every service needs to run on its own virtual machine (VM), have an internet connection and the necessary management resource. Docker is low on memory overhead and enables a few dozen services to run. In addition, the application isolation abilities of Docker allows multiple servers to be consolidated and hence saves money.

"Before VMs, bringing up a new hardware resource took days," says Ethirajalu. "Virtualisation brought this down to minutes. By creating just a container for the process and not booting up an OS, Dockers brings it down to seconds."

"Using the Docker containerisation system makes the testing process faster, cheaper and more efficient"

In complex programmes, as in most financial institutions, there can be dedicated Dockers for databases, App servers and Web devices. Hundreds of Dockers can be loaded onto a server, which is known as Docker compose. This enables the development team to rapidly activate their code in the test environment, which in turn enhances the feedback time by quality assurance.

So to sum up, using the Docker containerisation system makes the testing process faster, cheaper and more efficient. While its use is currently confined in most part to some of the larger technology players, it is starting to creep into financial service institutions and it is only a matter of time before its use is more widespread. Watch this space...

CYBERCRIME – IT'S TIME TO PRO-ACT, NOT JUST REACT

Dionne Beaumont

Cybersecurity is a serious game. Rarely an hour goes by without a news headline revealing an attack or a threat on a company or a nation's cybersecurity and the predicted costs of such an attack can be devastating – as much as £1m according to a recent study by BAE Systems. Add to that the fact that more than half of attacks go undetected for hours or even days and there's no doubt that it is time to up the cybersecurity game.

Despite this knowledge, a survey published earlier this year found that only one in five financial institutions were planning to spend money on improving intelligence gathering and assessment in a bid to beat cybercrime. Instead, most of their resources were earmarked to bolster existing cybercrime defences and encryption devices.

While these defensive investments are important, experts believe that firms need to stop just reacting to what has happened and start being proactive about how to prevent what could happen next. In the past, there has been a very clear focus on known controls and threats, but as financial firms become increasingly digitally focused and cloud-based mobile apps increase the exposure to sophisticated cyber threats, experts believe it is time to adopt an integrated strategy of intelligence and planning. In short, it's time to switch from reactive to proactive.

Recent history is rife with examples of cybersecurity breaches and like any epidemic, viruses can replicate, self-mutate and lie dormant.

"Holistic cybersecurity must combine defence, resilience and assurance"

The key is to review lessons from previous epidemics, assess your business' immune system, and put in place a framework to address any likely vulnerabilities. Current thinking purports that in order to succeed over time, businesses require a purpose-built cybersecurity defence - a framework of processes and procedures to foster and sustain a force-field of resilience. But what does this mean?

Holistic cybersecurity must combine defence, resilience and assurance in the same way disease-prevention requires inoculation, strengthened immunity and the mitigation of vulnerability. For cyber-protection the adoption of a new mindset and skillset is a greater asset than the purchase of the latest off-the-shelf cybersecurity product.

A good defence implies that a breach is detected immediately, with the appropriate real-time response. That response should trigger a cascade of events to contain the breach and protect the organisation; similar to a macrophage engulfing a pathogen and neutralising the attack to protect the host body from further harm.

For cyber-technology this may involve the monitoring and detection of intrusion or abnormal behaviour and data encryption and network segmentation to help reduce the usefulness of stolen information. Meanwhile the decoupling of systems, data and applications enables an organisation to better curtail threats. Most companies have a line of defence addressing malware and traditional hacking, but newer unprotected threats involve third-party vulnerabilities, geopolitical risk and insider exposure.

It is widely accepted that breaches will happen; it's only a matter of time and circumstances that will dictate their impact. The quick return to normal operations with minimal impact to customers and the business after any attack is a win-win for any organisation. So how can this be realised?

To withstand cyberattacks whilst maintaining busines-as-usual service levels, an organisation must invest in proactive controls, crisis response protocol testing, cybersecurity readiness assessments and hacking tests. If we liken the organisational architecture to an ecosystem of networks and business lines, a

breach to any one part of this ecosystem will put the entire community at risk. Resilience means a strong line of defence across the entire ecosystem. Imparting these controls would provide a force-field of defence around the entire organisation and promote sustainability.

"Assurance ultimately involves incorporating cybersecurity into the DNA of the business - into every new product and service"

And last but far from least, both businesses and their customers need assurance. If we couple resilience with defence and incorporate it into day-to-day business, we arrive at an organisation operating in a healthy state, that is promoting confidence and well-being. This optimum state requires frequent testing of the cyber defences, tracking adherence to security procedures and monitoring employee cyber education, risk habits and behaviour. Adopting all these strategies would secure a fully operational organisation that is master of its own destiny.

Assurance ultimately involves incorporating cybersecurity into the DNA of the business – into every new product and service, not as an afterthought, but as a matter of course.

WHERE TO STASH YOUR CASH

Claire Shoesmith

Cash is king, or so the saying goes. That however presupposes you have somewhere safe – and economical - to put it. Currently, for some deposit holders, holding cash is costing them money.

Back in July, RBS and its owner NatWest warned 1.3 million of their business and commercial customers that it may have to start charging them for deposits given the persistently low interest rates. This echoes the experience of the banks themselves, who are already being charged for the money they deposit with their central banks. In fact, according to one estimate, the 0.4 per cent annual levy that private sector banks are now having to pay the Eurozone's 19 national central banks to store their funds, has cost them an estimated €2.4 billion in such charges over the last two years.

"Central banks want to force cash out of bank vaults and put it to work in the economy"

As early as 2014 the European Central Bank cut its interest rate to below zero, and Denmark, Sweden, Switzerland and Japan have since followed suit. The aim is to encourage banks to lend to companies and households. Ideally, central banks want to force cash out of bank vaults and put it to work in the economy. The move to sub-zero rates has however had some unintended effects, particularly in the area of mortgages. When rates are cut, income from loans, including mortgages, falls and in some cases borrowers have found themselves facing higher fees and loan charges, ultimately reducing the effectiveness of the lower interest rate policy.

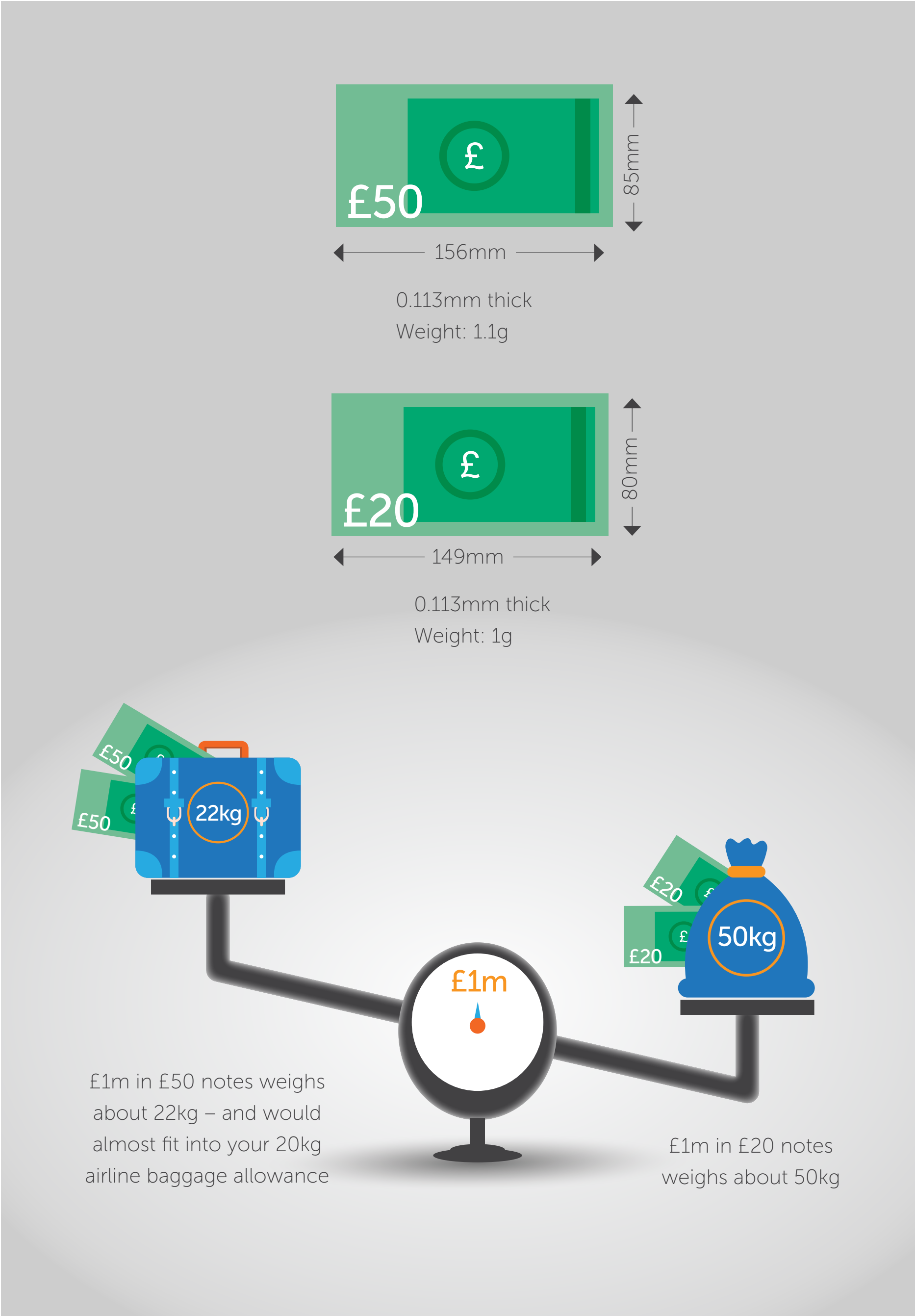
While we are not yet at the stage of individual savers being forced to pay to lodge their money with a bank, there is no doubt that the negative interest rate policy is having an impact. In fact, one Japanese news service recently reported a surge in sales of safes in response to the concerns, and it is possible that savers all over the globe will start to look for other places to store their cash rather than pay a penalty to keep it in the bank.

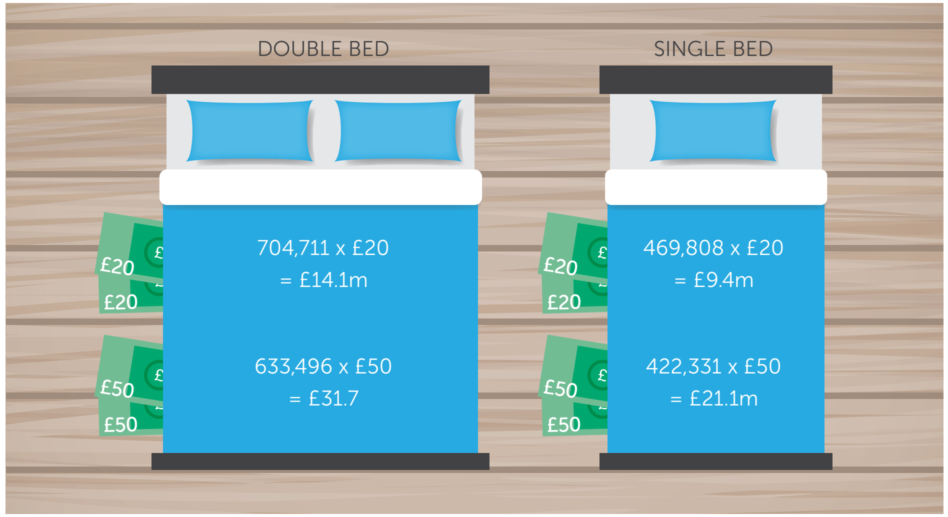
Somewhat surprisingly, a survey conducted last year by American Express found that the generation most keen to stash their cash in their own 'safe place' – under the mattress or in the freezer were the two locations that featured most prominently in the survey – were the millennials. And this was prior to talk of any costs being introduced.

So where could you store your money? And how safe is it?

The FT recently reported that the banks themselves were exploring keeping piles of cash in high-security vaults to avoid the charges, but that problems had arisen with regards to security and transportation.

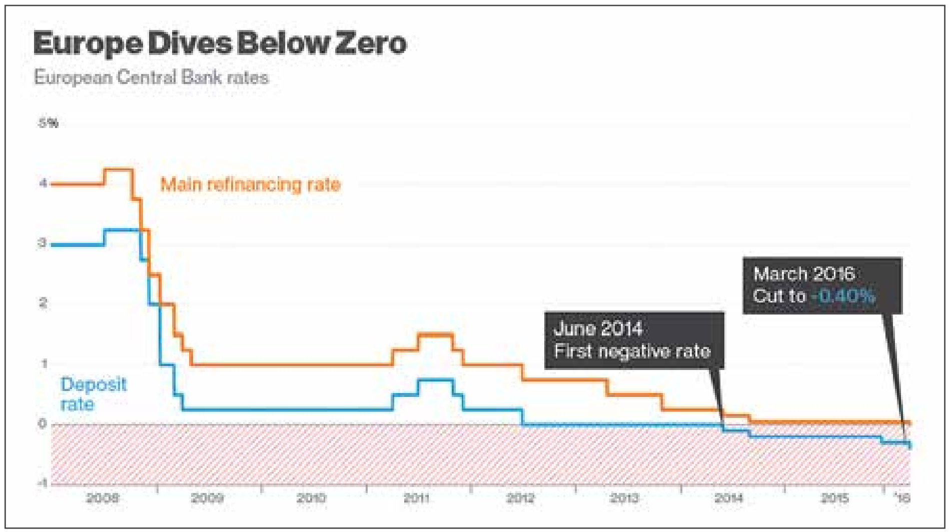
While the large denomination of euro notes – the €500 note is one of the highest-value circulating bank notes in the world - mean that only a small space is required to store large





amounts of money, finding locations to do this safely is not simple.

Transporting large amounts of cash is a risky business and not one that bank customers have had to consider in the past. A recent report in Newsweek cited a series of highly-skilled and professional break-ins at safety deposit boxes in the US. In these cases, it was mainly jewellery or smaller amounts of cash (albeit someone's life savings) that disappeared, but the concept of breaking in and stealing is



the same – and could easily happen to a vault containing millions lodged by a bank itself.

"It remains to be seen whether we're looking at the death of the bank account and a return to wads of cash stuffed under the mattress"

On top of these security concerns, there are issues of insurance. If large sums of money are being transported around the country, they need to be insured. Finding someone prepared to do this could prove difficult. Or then again, it could provide an impetus for a whole new marketplace.

As for the future, one German banker cited in the FT said that cash hoarding was unlikely to become a widespread practice. In reality, he said, it is a way of the banks registering their protest over the impact of negative rates. In the UK, banks and their customers are sitting tight. The Bank of England's governor, Mark Carney, has declared his dislike for negative interest rates and most economists expect the BoE to cut rates no lower than 0.1 per cent. Still, with the full impact of the Brexit decision still to be seen, nothing is certain.

So it remains to be seen whether we're looking at the death of the bank account and a return to wads of cash stuffed under the mattress. While the idea initially sounds quite comical, such a scenario has the potential to destroy the ability of central banks to use interest rates to boost growth. So the more prevalent question here is whether we are on the verge of serious change?

CAN THE POKÉMON GO CRAZE TEACH THE BANKING WORLD A LESSON?

Dushanee Selvaratnam

At a time when most consumers were looking for a fun summer diversion, along came Pokémon GO. If you're not already playing it yourself, your kids and many of your friends most likely are, and even businesses have started to take note and see how they can use what appears to be more than just the 'craze of the summer' to their advantage.

Pokémon GO is a mobile game that recently took the gaming world by storm, capturing the attention of young and old alike and rocketing to the top of the Apple and Android app rankings in record time. Unlike other games, it doesn't keep people shut up in their rooms. The game runs off an augmented reality HUD (heads-up display) of the real world. Players' characters, or avatars, explore with them as they catch Pokémon (short for pocket monster), collect rewards from PokeStops, battle other users at Gyms, and team up to defend their territory.

"There has been a lot of buzz about how small businesses can use the game to their advantage"

In the short period since its launch in early July, the mobile and augmented reality (AR) game from Niantic Labs, a company founded by Google and Nintendo, is influencing consumers' daily routines, as they are encouraged to explore their surroundings. It gets them to notice parks, streets, churches, statues, and other community landmarks, which had previously gone unnoticed. Players are also reaping other unexpected benefits, such as enhancements to physical and mental health, increased social activity and an unexpected lesson in technology.

The speed at which Pokémon Go has spread is unprecedented. Within a few weeks of its launch, it was installed on twice as many phones as Tinder, it had double the engagement of Snapchat, and it was eclipsing Twitter in its percentage of daily active users.

There has been a lot of buzz about how small businesses can use the game to their advantage. Now, a few months since Pokémon Go was first launched, market research shows that the hype is real: Pokémon Go really is bringing in more customers and boosting sales for many small businesses. Sharp small business owners have responded instantly to the opportunity presented by the traffic the game has brought to what were, in many cases, previously abandoned streets.

The real winners however are those businesses who have succeeded in leveraging the app's phenomenon to drive customers to their stores. The app's integration of the real life with active game play could in the future completely shift how we as customers interact with businesses. The number of paying customers to small businesses who have tapped on to this phenomenon have already seen their foot traffic increase to a level unseen in the history of smartphone apps.

Offering smartphone charging stations to Pokémon GO players has proven to be an amazing – and very simple - opportunity to generate new sales and customers. Put simply, it is all about engagement.

Possibly the biggest and most important lesson the Pokémon GO craze can teach the banking industry is to embrace the power of engagement. While local businesses can't currently elect to become Pokémon Gyms and PokéStops, there are hints that this could become a sponsorship option in the future.

According to Brett King, CEO of Moven, host of Breaking Banks radio show and author of the book, 'Augmented: Life in the Smart Lane', Pokémon GO gives a glimpse into how very different the world of banking, investment and financial advice could be in 10 years' time.

"The game also illustrates why banking is no longer a place you go, but something you do – on a phone, in AR and as a person lives their life," he says. "It also shows that mobile is far from being a mature platform, it still has plenty of surprises left."

In effect, the Pokemon Go game can teach banks how to use interactive design, big data, gamefication and user experience to provide not only innovation, but also a better connection between an organisation and its consumers. Some are already trying, but it's early days and the uses are simple, such as enabling customers to find the nearest branch or ATM, to view the latest offers and deals as they walk into a shopping centre, or to scan their bank card and see their most recent incomings and outgoings. Other banks are experimenting with property apps that use AR to show real-time price and

detail information on properties for sale, and layer in tools such as mortgage calculators and qualifying applications.

There is no doubt that the potential is huge and now it's clear that AR, and for the time being Pokémon Go, are here to stay, the question is which companies stand to win?

"It is all about engagement"

Although Pokémon Go is free to play, like most mobile games it offers in-app purchases, which have already started to rake in money. One report stated that the app was making $1.6 million a day in mid-July from US iOS players alone.

The game has a brand whose impact is strong and dates back to the childhoods of many millennials. For these reasons, it increased the market value of its parent company, Nintendo, by over $9 billion in the week of its release. The shares shot up 53 per cent, before dropping dramatically when Nintendo issued a press release stating that the vast success of Pokémon Go would only have a 'limited' impact on its earnings as it only holds a 32 per cent stake in the venture.

By contrast, Apple, which charges a fee to host apps on its App Store and pays itself a portion of the revenue spent on and within iOS apps, is likely to rake in billions of dollars over the next two years because of the runaway success of Pokémon Go. The firm keeps about 30 per cent of the money spent by users of the app. In fact, Apple might already be making more money from the game than Nintendo.

So are there any negative sides to this convergence of gaming and reality?

Believe it or not, local police forces in the UK have logged hundreds of incidents, from children trespassing on private land, straying onto railway lines and adults driving cars off the road or getting into fights whilst on the hunt for Pokémon characters. Decreases in productivity have also been reported at several firms as significant numbers of people in their 20s and 30s spent the last few months reliving part of their childhood playing Pokémon Go.

How long the craze will last no one knows, but there is no doubt that there are lessons to be learnt and opportunities to extend the idea of augmented reality into other parts of the business world. In short, AR is unlikely to be just a short-lived craze.

Contributors

Bryan Adare

Dionne Beaumont

Chris Burke

Sam Chamberlain

Zihao Chen

Gillian Christie

Naomi Crawford

Richard Cryer

Bala Ethirajalu

Dean Gammage

James Li

Paul Metcalfe

Akshay Pasarkar

Lee Pittaway

Dushanee Selvaratnam

Claire Shoesmith

Charlotte Smith

Nathan Snyder

Ivan Toniolli

Alan Vear

Pierre Velinor

Richa Walia

Richard Warren

Editor
Claire Shoesmith

Designer
Annie Carpenter

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LEVEL 30, 40 BANK STREET
LONDON E14 5NR
T +44 203 693 2605

115 EAST 23RD STREET,
3RD FLOOR
NEW YORK, NY 10010
T +1-646-741-9149

E INFO@BRICKENDON.COM
W WWW.BRICKENDON.COM

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