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Nathan Snyder, partner
BRICKENDON CONSULTING

REIMAGINING THE BANKING SECTOR – STAYING AHEAD OF THE BUZZWORDS

2017 was the year of the banking buzzword. Whether it was DevOps, Big Data, robotics or Blockchain, most people were talking and reading about it – and in the background, a few teams were actually practicing it. Now, in 2018, we here at Brickendon, along with our clients around the world, have a much clearer perspective of where the buzzwords meet reality and the changes that are already upon us.

DevOps has been a huge area of interest and there has been sufficient rigor put into its execution that it has removed the likelihood of the pitfalls in pre-crisis agile development practices. Back in the early 2000s, financial services development teams started discussing and implementing agile methodologies. While there were successes, it also led to a plethora of projects with improper documentation due to misinterpretation of agile principles. Agile discussions quickly became a warzone and it was difficult to determine which teams were really deriving benefit from the new methodology without getting into a detailed review of their development process and delivery.

By contrast, our experience of implementing Brickendon's award-winning DevOps methodology is less focused on the method and more about the intention behind the implementation. Like many of the buzzwords, DevOps is being implemented in order to create a more client-centric or client-conscious portfolio of services. Alongside the domains of Site Reliability Engineering (SRE) and MicroService Architecture (MSA), DevOps is entirely geared to producing an improved client experience.

Meanwhile, Big Data relates to how clients use combinations of business offerings, or how offerings can be created or amended to better

serve the client. Applied Economics has long told us that anything can be measured – from customer loyalty to employee satisfaction, however the familiar refrain in board and management meetings is that certain concepts are too complex and therefore 'impossible to measure'. The assumption has always been that if we cannot measure with accuracy, we should not approximate. With the increased availability of Big Data systems and the proliferation of Data Scientists, confidence has increased and this assumption has reversed, enabling organisations to start using their data to better understand and serve their clients.

The interesting trend is that now Big Data systems are part of almost every financial institution, the marginal cost of introducing new dimensions of data analysis has dramatically decreased. This has allowed us to use our data expertise to partner with our clients to generate Big Data insights in every aspect of the business – not just processes which directly face the client. This means operations teams can gather data to improve and reconfigure their internal processes with the same ultimate aim of providing an improved experience for the client.

Robotics, another big focus area for Brickendon, has also gone through an interesting transformation now that the initial hype has subsided. At first, Robotic Process Automation (RPA) was treated as the interesting new tool to be applied to every problem. Now however, common sense has prevailed, and technology teams are taking time to explain to their business that every RPA instance is actually another element of technology risk that has to be managed and tested. At Brickendon we have been working with our clients to ascertain the risk appetite for RPA implementation and to decide which processes are appropriate for RPA and which would benefit from a less-risky and lower-cost approach to automation.

At Brickendon, we believe now is an exciting time to be in financial services. We continue to see a lot of change in our clients' organisations and as the marketing sheen wears off the new technologies and processes, we are entering an even more interesting phase where we will see the impact of these developments.

There is plenty of work still to do and plenty of challenges lie ahead. It will be interesting to see how DevOps is embraced by large organisations, how MicroService Architectures age over time outside Silicon Valley, and how organisations embrace RPA, digitalisation and machine learning. Add to that the challenges surrounding data, cross-border transfer and compliance and there is no doubt that there is an exciting array of fascinating improvements to be made that we, here at Brickendon, know have real business value for our clients. As a transformational consultancy with a global outlook we are reimagining the banking sector to stay ahead of the buzzwords for 2018.

SUCCESSFUL DEVOPS IMPLEMENTATION REQUIRES MINDSET CHANGE

By Tim Smolcic, executive director, and Bala Ethirajalu, director

While DevOps is basically the amalgamation of software development and operations, the merging of these two parts of the business alone is not enough. If you want to reap the full benefits of switching to a DevOps way of working, including reducing testing and development times (by as much as 80 per cent), significantly cutting overall costs (by as much as a third for one part of the project alone) and improving the overall quality of the software and time-to-market, then you need to combine more than just the Dev and the Ops.

DevOps brings together development and operations in an agile way, removing walls, gates and transitions to increase accountability for the full end-to-end software development process. It requires cooperation and collaboration from across the whole business and in turn brings a raft of benefits, including:

- removing the potential for human error by increasing automation;
- producing results quickly and clearly;
- saving significant amounts of time and money; and
- avoiding potential reputational damage from delays and errors.

Traditionally development and operations were two very different things carried out in isolation with an imaginary wall between them. Development was done on one side, and once complete, the developers effectively threw the delivery over the wall to the operations team who deployed the software programme into production. This extreme segregation stemmed from fears of cross-contamination between the different phases and expertise levels of the software development life cycle, and in particular, concerns over regulatory restrictions and issues with some individuals having access to systems they should not. In the past, it had been known for software to be released into production unchecked and content to be updated by individuals without the necessary expertise, which combined, caused serious errors and lead to trading losses.

As a result of the ensuing isolated working methods, no one was accountable for the full end-to-end process, from requirement, through development and testing, into production. Failure to combine these activities lead to an extended time-to-market, higher costs and increased likelihood of issues and defects being found once the programme was in production. By contrast, DevOps integrates the two processes of development and operations into a single entity with the aim of producing the best software system as quickly and efficiently as possible.

To put it simply, the key is ownership and accountability, and in particular ensuring that one team, comprising developers, project managers, business analysts and testers, takes end-to-end control of the whole process. Teams need to move away from the traditional waterfall software development cycles and employ agile and lean methodologies. This enables work to be prioritised as appropriate, thereby reducing the time taken to complete tasks and encouraging the discovery of problems earlier in the lifecycle, making them simpler, cheaper and less time-consuming to fix.

The introduction of automation, in particular in relation to generating different testing

environments, can significantly speed up the development process and help remove some of the risks associated with human intervention. In addition, encouraging the adoption of agile methodologies such as Kanban or Scrum can speed up the cycle further. These frameworks allow workflow to be monitored and prioritised, taking into account both planned and unplanned activities. Unrelated tasks can be carried out alongside each other, reducing the waiting time and propelling the project forward.

Encouraging alignment to a shift-left way of working, which means testing is carried out as early as possible in the development process,

reducing the risk for costly and time-consuming fixes late in the cycle, is also important.

By adopting the DevOps approach, banks and other institutions can save themselves considerable amounts of time and money and rest assured that the software development is of a highly superior quality because the whole team is fully aware of what is happening at each stage of the process.

Other advantages of implementing the DevOps methodology, include:

- an increase in confidence in delivery as less defects are introduced into production;
- integrated teams requiring less man-power;
- lower costs to rectify bugs as they are identified earlier in the lifecycle;
- more time for project resources to focus on delivery;
- faster releases thanks to standardised and reusable automated tests; and
- the ability to divide releases into modules, giving less opportunity for error.

In short, while the act of combining development and operations is relatively straightforward, the DevOps methodology cannot be properly integrated within a business, and therefore reap the appropriate benefits, without a change in mindset and the promotion of accountability across the whole organisation. To put it simply: you build it; you break it; you fix it. With DevOps there is no place for passing the buck, represented in this case, by the software development life cycle.

As DevOps champions we have a great deal of experience in this area. Nominated as finalists in two categories at the inaugural DevOps awards in 2017, we have successfully saved clients millions of pounds. ◣

See our website www.brickendon.com for more details.

IMPLEMENTING RPA FOR THE RIGHT PROJECTS

By Iya Datikashvili, director and RPA specialist

While the financial industry has embraced Robotic Process Automation (RPA), reporting substantial cost reductions and increased productivity, why is it that organisations outside of the financial industry are hesitant to implement RPA within their technology and business units?

One reason is that non-financial institutions think that RPA is a niche solution with limited scope and automatically dismiss it as being a viable technological solution for their workflows. The truth is, RPA can be applied to all industries as an end-to-end solution, or partially in combination with manual or other technological solutions.

As a start, lets revisit what RPA is and how it is used. Robotic Process Automation is the application of software to develop a virtualised workforce (bots) that will perform business processes in the same way as the existing workforce. It is more than just a macro running simple jobs on a desktop. It is a rules-based engine programmed to replicate existing manual business processes across various systems via front-end User Interfaces (UIs), capable of using multiple data sources and applying complex content or time-based rules.

Business processes exist in every industry including regulatory and compliance, healthcare, retail, manufacturing, telecoms, and insurance, so it makes sense to explore the benefits RPA can deliver across all business processes.

To illustrate the versatility of RPA, let's look at a selection of business processes within a range of sectors and organisations and see how they could incorporate RPA within their workflows:

- Healthcare:
  - Data processing from legacy systems to EMR (Electronic Medical Record) data management systems – transfer years of patient data from the legacy system to a new EMR system

  - Claims processing – replicate the observation, decisions, and actions of claims examiners to automate claims processing activity

  - Gather patient data from multiple sources – import unzipped, decrypted and printed files and data automatically for billing purposes

  - Patient insurance claims eligibility and status lookup – insurance claim eligibility and status lookup to third-party websites

- Accounting:
  - Procure to Pay – cross reference purchasing budgets to ensure compliance with predefined buying limits and route an email for approval; once the approval is received generate a purchase order and send to supplier by email

  - Days Sales Outstanding reporting process used to identify outstanding sales to recognise unrealised revenue - automate the integration between the enterprise resource planning system (ERP) and the accounting system to eliminate errors and shorten the billing-to-shipping cycle

  - Automate Account Creation by first performing app verification, credit and background security checks, and then uploading approved application automatically into core banking apps

- Regulatory and Compliance:
  - Central Screening System (CSS) incident reporting – integrate incident reporting with CSS monitoring tool and automatically generate Level1 (L1) and Level2 (L2) incident reports based on system alerts

  - Anti-Money Laundering (AML) account verification and notification of regulatory breaches to responsible personnel – generate emails with multiple levels of detailed information on any entity that does not meet AML's customer ID verifications

> **"** Automating business processes brings value to the entire organisation not just the individual department. **"**

Organisations which have difficulty understanding how RPA can be applied to their specific business groups consequently end up dismissing the technology. Conversely, organisations who have misconceptions about RPA and think it is a simple remedy start the implementation process before establishing a proper framework and neglect best practices. For most companies, the RPA strategy should be balanced between thinking big, starting small and applying a pragmatic approach towards delivering strategic value to the business.

Data shows that automating business processes brings value to the entire organisation not just the individual department. For example, after implementing RPA a client onboarding team required 40 per cent fewer resources to onboard a client, and reduced the onboarding turnaround time from 48 to four hours. The efficiencies realised within the client onboarding team subsequently delivered

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benefits throughout the business including reduced operational costs by requiring fewer resources; improved productivity by shortening the turnaround time from contract to billing and generating revenue; and freed up personnel who previously performed repetitive, mundane and time-consuming tasks to focus on more-business-critical areas.

While end-to-end process automation is the desired outcome of RPA, sometimes it makes more sense to implement partial process automation both from an efficiency and cost perspective. The key is to identify the real opportunity and filter out the steps in the procedures that have a high cost but low impact. Some opportunities are more evident than others, so a business process should not be dismissed for automation just because of its complexity. Organisations must consider the merits of each particular part of the process for automation and not get bogged down with the all or nothing concept.

> " The key is to identify the real opportunity and filter out the steps that have a high cost but low impact. "

The opportunities for business process automation are limitless and when applied correctly and for the right projects, RPA can lead to significant business benefits across organisational performance areas, including cost and profitability, productivity and scalability, quality and customer satisfaction, employee growth and fulfilment, and compliance and regulation.

Any organisation looking to improve efficiency and increase the quality of a business process should take a fresh look at RPA and evaluate how to incorporate the technology into their business process. ◢

Switching to a DevOps methodology:

Saves significant amounts of time and money

Reduces the potential for human error by increasing automation

Produces results clearly and quickly

Gives management an accurate and timely overview

Avoids potential reputational damage from delays and errors

Implementing Brickendon's DevOps methodology has been proven to:

Increase software releases by 45% speeding up releases to daily or weekly

Cut testing timelines by 80%

Reduce business analysis times by 90%

Lower the cost of the biggest down-stream testing piece by 33%

Decrease the number of business -impacting incidents by 43%

Further reduce costs by several million pounds once rolled out globally

Deliver global asset-class reclassification to drive accountability

Grow the relationship between business and IT departments

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A TESTING CENTRE OF EXCELLENCE IS ALL ABOUT UNIFORMITY AND CONTINUITY

By Iya Datikashvili, director

No two things are ever the same. Whether it's a piece of software, members of a testing team, or varying managerial styles, everyone and everything is always slightly different, and it is these differences that can cause problems. In the testing world, one of the biggest challenges facing organisations is how to achieve an efficient and robust testing service model across their entire IT department without introducing operational risk. One new and attractive solution to this issue is to adopt a Testing Centre of Excellence (TCoE).

So, what is a TCoE and what are its benefits? A TCoE is a team, shared facility, or entity, that provides governance, leadership, best practices, support and training across the organisation's software testing efforts. It consists of testing specialists and assets that can be used to appropriately leverage testing knowledge, technology, methodology and resources to all testing engagements.

The aim of a TCoE is to manage and maintain operational control to achieve increased efficiency and productivity. It optimises manual, automated, and non-functional testing practices and resources to increase quality across applications, and reduce the overall cost of testing services in a systematic, repeatable and predictable manner. To put it simply, a TCoE establishes governance and oversight, as well as a common set of standards and practices by which the testing entity will operate.

There are a variety of reasons for establishing a TCoE, including to increase efficiency and quality, to reduce the overall cost of testing services, or to transfer management risk and accountability of the testing services

to a central group. Whatever the focus, the planning phases and implementation processes are crucial.

Before delving in to the specifics of building a TCoE, it is important to mention that a TCoE can have different operating models. It can be outsourced as a managed service or established as an internal service model. In either case, it is recommended that an organisation partners with a vendor that specialises in establishing TCoEs to help implement the programme.

A TCoE as a managed service establishes a partnership with a managed Quality Assurance (QA) service provider in order to benefit from their specialised testing capabilities and to transfer management responsibilities. The service provider takes care of all software testing needs and requirements, including staffing, delivery, programme management and thought leadership. The service provider sets up a dedicated TCoE customised to the organisation's needs, takes ownership of QA projects and tasks, and ensures that uniform testing standards are implemented across the organisation. The model is scalable and flexible and offers onshore, nearshore, and offshore resourcing options as required by the business.

With the TCoE as an internal service model, the entire QA requirement is set up and managed internally within the organisation, in line with a governance model that encompasses strategies with common practices, methodologies, tools, and assets. Similar to the TCoE as a manged service, TCoE as an internal service sets up a dedicated testing unit customised to the organisation's needs, takes ownership of QA projects and tasks, and ensures that uniform testing standards are implemented across the organisation. The responsibility for staffing, resource management, programme management and thought leadership remains with the organisation itself. Although this

model can also be flexible, offering onshore, nearshore and offshore resourcing, it is relatively harder to scale by comparison to a manged service model, and is much more dependent on the organisation's global presence.

While the management framework between the two TCoE models is different, the driving factors for the models are based on similar principles and should effectively provide the same benefits:

- Centralised testing process, governance and escalation mechanisms
- Decreased costs due to increased efficiencies
- Lower technology risk and increased customer satisfaction owing to improved quality
- Increased capacity due to efficiency gains
- Predictable deliverables: on-time, on-budget, high-quality
- Standardised, reusable and proven testing assets applied uniformly across the organisation
- Reduced exposure to risks associated with SME transition, training and retention, and attrition
- Specialised and core competency units, such as automation and non-functional testing, managed as a horizontal shared practice across all projects
- Transparency in programme-wide Quality of Service (QoS) achieved by periodic quality maturity assessments
- Streamlined project ramp-up capabilities

Organisations looking to partner with a vendor to implement a TCoE need to perform due diligence on the vendor's testing strategies and expertise within those strategies, particularly in relation to automation. Automation is a game changer when it comes to delivering quality while also shortening the development and test lifecycles, and should be a relentless

focus of the testing centre. It is a differentiating factor between the success or failure of the entire TCoE implementation.

Once an organisation has secured executive support for the transition to a TCoE model, the next steps are to develop the target-state structure, outline an implementation roadmap and risk-mitigation plans, and to ensure the TCoE operating model is aligned with the needs of the business.

While the benefits of implementing a TCoE model are many, in order for the transition to be successful, the implementation strategy should be based on stakeholder buy-in, cross-functional team collaboration, and have a focus on ensuring minimal disruption to existing operations. Without this structure, the main benefits of TCoE implementation will struggle to be realised.
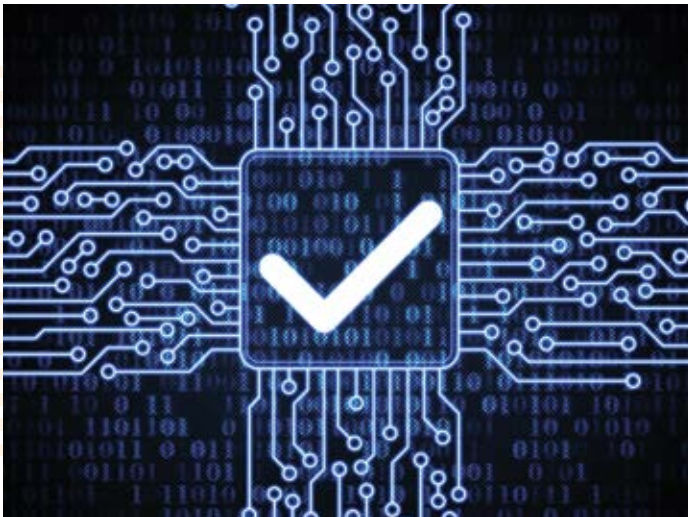
HOW WILL ROBOTS IN THE OFFICE ACTUALLY WORK?
By Christopher Burke, CEO - First published in City A.M. on Feb 1st 2018

2018 is expected to be all about the acceleration of the process to replace people with robotics and automation, but are we really that close to seeing robots as fellow employees in the financial services sector, and if so, how will it actually work?

In reality, it is already working. Robotic Process Automation (RPA) and robots (bots) are the evolution of complex business rules processes and decision matrices that have evolved within financial services over past few years. From automating middle and back-end business and management processes, through delivering technical capabilities in support of end-users and customers, we are now moving towards software that has the ability to automatically run robots 24-7, 365 days a year that mimic human actions via front-end User Interfaces. But how close is widespread adoption across financial services?

> " this evolution of automation will require additional human input rather than less. "

A sudden seismic shift in the makeup of the financial service sector's workforce, whereby teams of robots work round the clock without making mistakes or taking a break, displacing humans, is unlikely in the near term. Instead, now the potential benefits have been recognised, particularly in areas such as customer experience and project scalability, steady progress in both the quality and adoptability of RPA is expected. However, by contrast to many media reports claiming the robots are coming to take all our jobs, this evolution of automation will require additional human input rather than less - at least in the short term.

Decisions will need to be made as to exactly which processes robots can carry out, as not all activities will make sense to be automated. Ill-defined processes will generate not only inefficiency but also lead to mistakes, and the initial outlay in terms of financial cost and human time will need to be weighed up against the future benefits.

Firms will need to assess their existing operations to establish selection criteria for processes which can be automated, asking questions such as:

• does the input have a defined structure?

• is it a standardised process?

• does the process have to be replicated in multiple geographical locations?

• does it require 24/7 support?

All whilst taking into account the fact that currently, robots primarily demonstrate intelligence based on a limited set of parameters.

In addition, highly-skilled individuals will be required to set up and code the technology to make the machines operate along the defined rules or processes. While a robot may be very good at carrying out the exact task it has been trained to do within defined parameters, the evolution to operate outside such guidelines is infinitely more complex. Whilst this day will come, it is not on the immediate horizon for anything but structured manual and repeatable processes. While handing these tasks over to robots will free up individuals to carry out other higher-value tasks, the same

initial set-up process of deciding, defining and designing is required to ensure the processes reach the correct outcome and make economic sense for the organisation involved.

In effect, the intention behind RPA implementation is to ensure organisations are more efficient. An organisation's ability to utilise both robots and humans in their workforce, using their human employees in areas that add value to a firm's operations and delegating the repetitive tasks to automated machines would be seen to be the optimal outcome in the near term. Even once the automation is set up and the robots are in action, the role of the human is not obsolete. Just as an employee requires a mentor or a boss, robots require support and supervision to ensure any issues which may impact the

process, such as network failure, a bot crash due to error, or exceptions in the operations, can be dealt with.

One last thing to consider is that RPA is not a panacea. It cannot be used to paper over the cracks of ill-defined or badly-created business or technology architecture, and without the correct planning, implementation and ongoing support, any automation is likely to fail. As with any change, thorough planning and an appropriate end goal is essential if it is to succeed.

So rather than a wholesale shift in 2018 to robots taking over the workforce, there will be a continuation along the path of collaboration. While the benefits of implementing RPA or other automated technologies into a business are significant, the key thing to note is that robots cannot work alone. They need humans to tell them how to work – and this is where the real revolution in robotics is likely to come. Not from automation alone or from humans alone, but from the two collaborating on developing technologies with the aim of improving efficiency and profitability whilst reducing costs and manual errors. This is how businesses will be staffed in the future. ◢
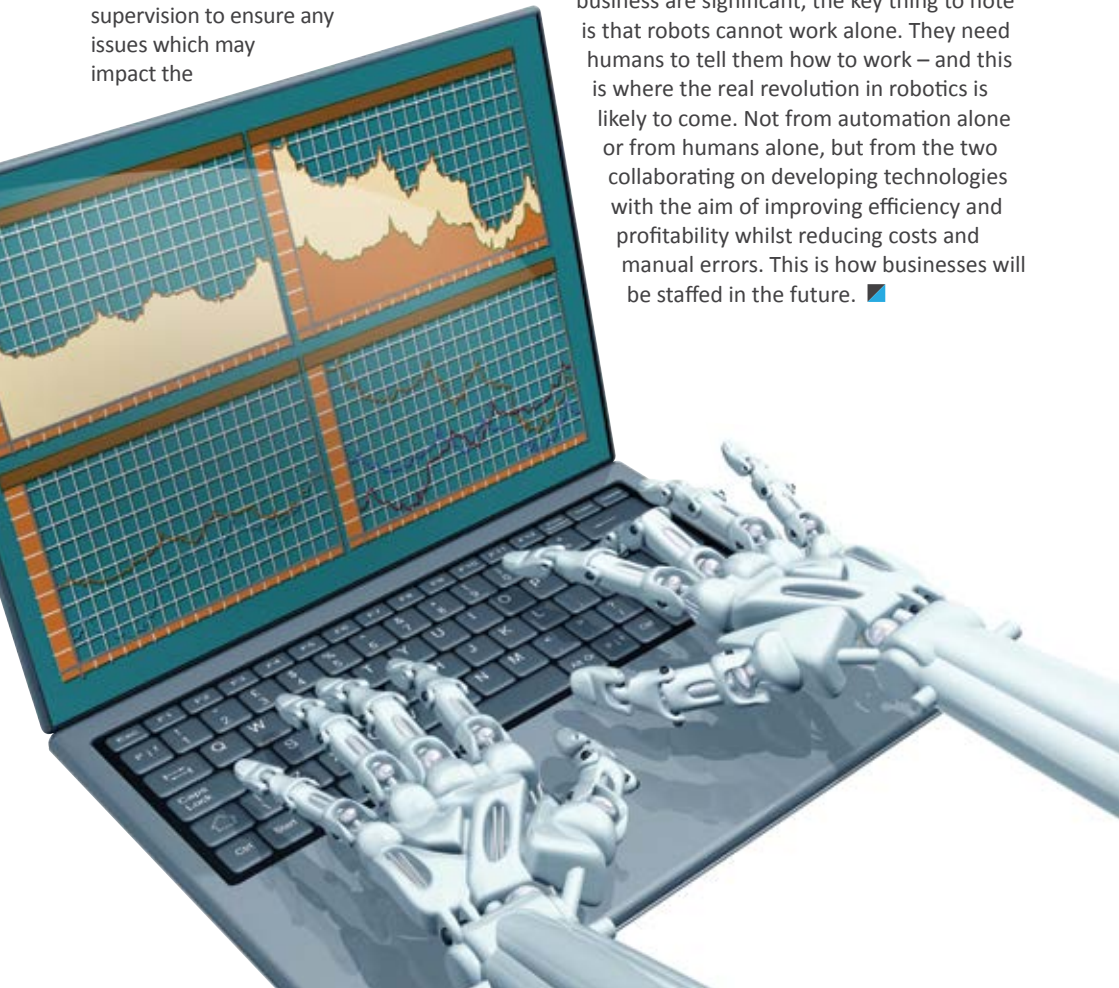
Don't resist the rise of the robots, embrace it.

The future is about collaboration
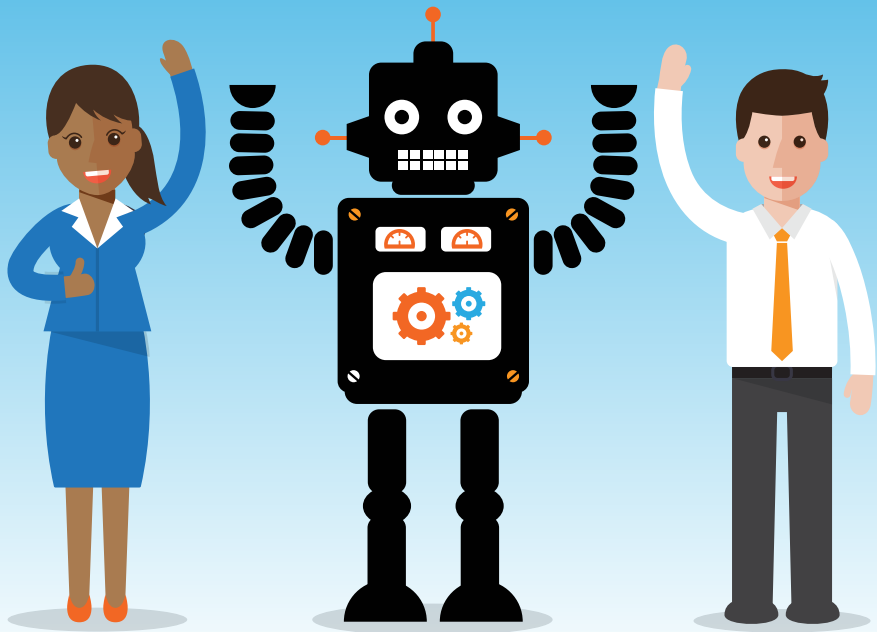
Robotic Process Automation (RPA) is not about removing humans from the workplace. It is about enabling organisations to make the best use of their employees in areas that add value by delegating repetitive tasks to machines. We at Brickendon have the expertise to help you understand the benefits of RPA, and where appropriate, to help implement it effectively. The question is how best to add value. The answer is through collaboration.

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IT'S A TIPPING TIME FOR DATA
By Evangelos Tzimopoulos, managing consultant

The term data science may not yet have made it into the official Oxford or Webster's dictionaries, but it won't be long. Also known as data-driven science, it is an interdisciplinary field about scientific methods, processes and systems used to extract knowledge or insights from data in various forms. Used correctly, it has the potential to clear up decades of incremental spaghetti and mismatched data sets and processes and significantly improve an organisation's bottom line.

Furthermore, data science is not just about the analysis of data. It involves the whole data life cycle: generating, collecting, storing, managing, analysing, visualising, and finally interpreting through story-telling, and can be applied to most industries. The abundant volume and variety of data from a plethora of sources, which is commonly referred to as Big Data, enables and propels data science to fulfil what has been envisaged for a long time: real-time insight-driven decision making within the enterprise at all levels.

"We have been talking about data science for a long time," says Brickendon Partner and Data Specialist Nathan Snyder. "But now we are reaching a tipping point. The data is loaded and the toolsets are understood and available."

In other words, we are moving into an era where there is an increased understanding of the data available and a corresponding desire to do more things with it. Going forward, businesses who harness this data in the most efficient and effective ways will have an advantage that can fuel performance and help them stay ahead of the competition.

> " Now we are reaching a tipping point. The data is loaded and the toolsets are understood and available. "

The question is, how to do this. During a recent panel discussion hosted by interview site The Cube in conjunction with IBM, data science was likened to Batman. Unlike Superman, who uses his super-human powers to rescue heroines and ward off the baddies, Batman's trademark is the tools and technologies he uses to help make the things he wants to happen, happen.

In the same way, effective use of data science requires not only an insight into, and understanding of, the data available, but also a certain knowledge of the tools and technologies that can help this process.

For businesses, the key is to focus on using data and the appropriate technologies to predict what will happen and prescribe what should be done, rather than just focusing on the past. Done correctly, this will allow firms to move from managing processes to optimising them. "It is the difference between fixing a broken part and assigning an engineer in advance to a part we know will break," says Snyder.

Many of these developments are starting to be accepted and the way data is used is beginning to change. There is already a move away from descriptive and diagnostic analytics, which look at what happened and why, towards a predictive and prescriptive focus, looking at what will happen and what should be done. In other words, value-added analytics – data fuels predictive algorithms that businesses can use to drive consumer behaviour and meet consumer needs. This in turn helps fuel advances in science and artificial intelligence.

" The key is to know what you have and then decide how to use it for the best outcome. "

It is also no longer all about putting large amounts of data into a big database and hoping everyone uses it. Instead, there is a focus on Logical Data Warehouses (LDWs) and the creation of semantic maps with a view to getting the right targeted data out.

Going forward, the four-tiered approach to data science, incorporating the Data Architecture Framework (DAF); Information Engine (IE); Advanced Analytics Engine (AAE); and Data Portal (DP); could be of great benefit to companies seeking to make the most of their data:

- the architecture stage sets the framework for data to be sourced, integrated and organised into LDWs and Data Lakes, improving access to all data types;
- the Information Engine provides standard analytics capabilities as well as advanced visualisation tools, using drag and click technology such as Tableau and QlikSense, to allow business users to play with data (that has been sourced, catalogued and assigned trust ratings) to see what they can find;

- the Advanced Analytics Engine enables the use of machine learning, deep learning and neural networks, facilitating work on large heuristic problems in the predictive and prescriptive space, allowing longer lead times and potentially a bigger impact; while
- the Data Portal offers self-service access and streaming capabilities with Application Programming Interfaces (API), User Interfaces (UI) and reporting solutions, which can utilise any of the underlying information or advanced analytics engines.

Like with any new development, the key is to know what you have and then to decide how to use it for the best outcome. With the proliferation of data in society today, and the increased regulatory focus on that data, handling it correctly and learning how to use it to your advantage has never been more important. Data science is no longer just for the business. Lower costs and higher data availability mean that it can now be used for the operational engine of the organisation and not just in the client sales process. In large global organisations this could have an even bigger impact on the bottom line, clearing up decades of incremental spaghetti and mismatched data sets and processes. Data science is the future – now is the time to prepare. ◢

WHAT DOES BREXIT MEAN FOR LIFE POST MIFID II?

By Harpreet Singh, executive director - First published in the FinTech Times March edition

The Second Markets in Financial Instruments Directive, or MiFID II as it is more commonly known, went live on January 3rd, 2018 at a time of great global political uncertainty. The financial institutions across Europe are now grappling with the after effects of MiFID II implementation, known as Day two, which includes improving the quality of their implementation, fixing issues as reported from various other industry participants and outlining the shortcomings to the regulators. While Day two is ongoing, there are already murmurings of a newer version of the regulation termed MiFID III, and more frequent discussions on the impact of Brexit to the existing MiFID legislation.

> " The political uncertainty is a concern for the financial industry. "

More than 18 months after the British public voted to leave the European Union, the nation's negotiators are still locked in discussions with European leaders about the terms of the departure. Internally, the UK political scene is at best, divided. The ruling Conservative Party has failed to rally behind its leader and the country's Prime Minister, Theresa May, while under its leader Jeremy Corbyn, the opposition Labour Party has shifted even more towards the left. In Germany, after the surprise increase in right-wing support in the last election, Chancellor Angela Merkel's formation of a grand coalition didn't go as smoothly as expected, and in the US, President Trump continues to face challenges such as the FBI inquiry into Russian interference and the lack of stable advisors around him.

This political uncertainty is a concern for the financial industry, particularly as the negotiators on all sides still need to agree on a raft of regulatory and legislative issues. It is fair to assume that in the short-term, the UK's regulatory regime will aim to converge with that of the EU. This is expected to be the most likely scenario, and something the current UK government and regulators, including the including the Financial Conduct Authority (FCA) and the Prudential Regulatory Authority (PRA), have maintained publicly to ensure that the trust and goodwill of the public and the business community is preserved. However, there are multiple factors that could cause a divergent set of rules, especially when it comes to MiFID III:

- **Tone and result of the negotiations:** Any punitive action (or talks of such) from the EU will likely prompt UK citizens, politicians, and businesses - especially the ones who voted for Brexit, to call for the UK to re-consider its position on supervisory convergence. So far, European leaders have maintained unity in Brexit negotiations but any political shift, especially one towards a more right-wing agenda in any of the major European economies, could lead to a discordant view of regulations within Europe itself.

- **Third party regime:** If the Brexit negotiations lead to the loss of passporting rights, MiFID II compliance will be even more important for the UK in order to retain access to third-party status. The Markets in Financial Instruments Regulation (MiFIR) MiFIR allows investment firms in third-party countries to provide investment services to professional clients. However, they would not be able to provide investment services to retail clients, either

directly or by setting up branches across the border.

- **Trade deals outside EU:** There is very little clarity on how the UK will negotiate trade deals outside the EU. In reality, the UK may need to attract certain sets of investors, especially from growing Asian countries, and therefore decide to change some of its MiFID II rules, especially around third-party countries.

- **MiFID II classifications:** Based on the outcome of the Brexit negotiations, certain MiFID II classifications may change as the original calculations of market size related to the UK only.

- **Loss of influence:** The UK regulators' influence over the steering group on EU regulations has reduced since the UK triggered Article 50. This may lead to a divergence from EU regulations as the UK seeks to define their own standards.

- **Pragmatic compromise:** The UK may decide to change its' version of MiFID II to stringent, flexible or somewhere in between to protect its status as a major financial hub.

- **MiFID II shortcomings and lessons:** Outside of Brexit, another key reason for changes to the MiFID II regulation will be MiFID II itself. As regulators and industry participants gather and analyse the data, they will likely find that certain elements of MiFID II haven't produced the desired results. This could relate to rules around liquidity calculations, market structure definition or even providing more protection to retail investors.

As discussed above, any changes to the MiFID II legislation and requirements are likely to be brought by a combination of factors, which include Brexit and the bedding-in of the regulation itself.

The UK has a strong track record of implementing and upholding fair and strong banking regulation. Through Brexit, this will be challenged and many aspects of the nation's regulatory reform will need to be revisited.

Financial institutions will not only need to be prepared themselves, but also be ready to guide the negotiators to an agreement that is beneficial to both sides. To do this, they need to undertake a three-pronged approach:

1 Dialogue with the government and the regulators:

Irrespective of the lack of clarity on Brexit, the financial industry should continue to engage with their respective regulators and the governments to work through what are expected to be tough and challenging issues for at least another year until the outcome of the negotiations becomes clearer. The key here will be to build trust between all parties.

2 Understanding internal capabilities:

Firms should focus on understanding their own internal capabilities regarding their data, business architecture and support infrastructure as this will leave them better prepared to make faster and more accurate business decisions once the outcome of the negotiations becomes clear.

3 Scenario planning:

Many firms have already undertaken some level of scenario planning, but ensuring they have a good understanding of their current capabilities will allow for increased accuracy. Effective scenario planning and its results can facilitate more constructive dialogue with the government and regulators.

Finally, financial institutions will need to be adaptable and be prepared to change course if required. The compliance and legal departments within banks should ensure they are prepared for possible sudden changes in direction, while those in charge of the business need to outline various scenarios and assess the possible impacts on their business models. Without this, many firms will struggle to survive.

OPEN BANKING IS AN OPPORTUNITY FOR ALL
By Corneliu Dicusar, principal consultant

Fidor is a bank without a branch. It does however have a license. Launched in Germany in 2009, Fidor has integrated social media into the heart of its operations (it changes its interest rate on savings based on the number of Likes on its Facebook page) and is implementing the concept of 'banking as-a-service' by allowing third parties to take advantage of its services and infrastructure in a controlled fashion. This is done through Application Programming Interfaces (APIs), which enable partners to conduct instant payments, single transfers and direct debits via Fidor's mandate.

Sensibly, Fidor does not try to build everything in house, having realised it is an unnecessary use of both time and funds, and instead partners with other firms that offer the latest solutions for its specific needs. One example of this, is the cross-border payment platform developed by the B2B international payments engine Currency Cloud, which Fidor took just two weeks to integrate, instead of spending 18 months to build in-house. This collaborative, but forward-thinking model, puts an emphasis on the need for partnering with innovators, provides the confidence to share proprietary data and services and an eagerness to take advantage of the data exposed by others.

Doing things differently

So why does this matter? It matters because Fidor is doing things differently. In an environment where competition is already fierce, and initiatives and regulations such as Open Banking in the UK and the second Payments Services Directive (PSD2) in Europe, are starting to open up the sector to further competition, any differential is an advantage.

> "The ultimate aim is to improve operations and reduce costs."

The emergence of the digital economy, the explosion of AI and Big Data technologies, and the move towards cloud and Service-Orientated Architecture (SOA) models mean that the world of banking is changing. Competition from new entrants with the ability and knowledge to embrace emerging technologies is putting pressure on the established players who have no choice but to adapt if they are to survive.

Access to data

One of the main stumbling blocks to opening up the market is access to data. Currently the domain of the established players, many small FinTech companies are using various workarounds and 'hacks' (not in the malicious sense of the word) or one-on-one partnerships to gain access to the customer data that is heavily guarded and encapsulated by the banks. However, neither of these offer a scalable or robust solution to bring life to the concept of Open Banking.

The elegant solution to the problem is to use standardised APIs across the entire banking industry. In some regions (like the US) the standardisation is being driven by the market and has resulted in a patchwork of clever innovations. In other regions, the regulators have taken it upon themselves to encourage the adoption of APIs with the introduction of PSD2 and Open Banking.

Putting aside the benefits to the customers of opening up the market, it is easy to see why new entrants, and particularly the FinTech

sector, is so eager to push the industry in this direction. New entrants in the marketplace can only stand to gain. Banks, on the other hand, seem to be on the losing end: not only do they have to expose their client data and deal with the amassed internal legacy systems, but they also have to devote large amounts of resource to ensuing regulatory compliance across all functions whilst competing with small start-ups, which are by definition agile and cost significantly less to run. In addition, start-ups have the luxury of being able to fail without a major impact, something that big banks can't risk as reputation is one of the most important factors in the survival of their business.

So, do the established players have any advantages? Yes, they do. They have:

• customer data;

• a banking licence (with much higher standards than a non-banking one that doesn't give the right to offer current accounts, for example);

• an already established bond of trust with clients (this is however a fast-waning advantage as more and more young tech savvy people mature and begin to use banking services);

• a global outreach;

• established relationships with regulators and decision makers; and

• partnerships with consulting companies that can bring industry best practices.

However, the window for banks to use this opportunity is closing fast, and there are already examples of very successful API-based innovations implemented by non-traditional banks such as Fidor.

For the established banks, Open Banking APIs offer an unprecedented glimpse into what their competitors are doing. Banks can now start building dynamic pricing models that react to overall changes in the market and produce

the best deal for the client. This increased awareness of the marketplace, and more importantly, the willingness to adapt, will not only contribute to client retention, but also create interest from new clients. It also opens up the idea of automated financial consultants, which draw intelligence from the massive volumes of data that banks have amassed.

" The emphasis should be on partnership and collaboration with the industry innovators. "

In truth, the potential is endless for all involved. Banks will be able to position themselves as intermediaries for e-commerce merchants and their customer bank accounts. This way they will take a share of the profit and eliminate the need for established intermediaries like Visa and Mastercard. It will also be possible for banks to combine financial service products like pensions, investments and insurance from various other suppliers, ensuring the customers get the best deal.

All these innovations are only now possible with the fast adoption of the Open Banking concepts and APIs. As the market changes, there is no reason why the established banks cannot leverage the new developments themselves and start offering products and services that require the high standard of usability, security and agility expected by the maturing tech savvy consumers. As proven by the successful model employed by Fidor, banks do not have to build everything themselves. They are large organisations with top-down approaches that make it difficult to maintain the pace with the speed of technology change. Instead, the emphasis should be on partnership and collaboration with the industry innovators.

To conclude, banks have a number of advantages over their newly-established

FinTech competitors which puts them in a good position to take advantage of the Open Banking revolution as it develops. While the exact way the market opens up remains to be seen, one thing is for certain, and is that there is no room for complacency. Now is not the time for business-as-usual. If banks want to succeed in this increasingly fast-paced race to become the financial services provider of choice, then willingness to change and an acceptance of a more open market is the way forward.

" There is no room for complacency. Now is not the time for business as usual „

MANAGED SERVICE
– IT'S AN ALL-INCLUSIVE OFFERING

By Lee Pittaway, partner

If it's an all-inclusive service you're after - think cocktails on tap, food on demand and the reassurance that someone else is in charge, then it's a managed service offering that you need.

Unlike traditional off- and near-shoring where individual parts of a business are transferred overseas to different lower-cost locations in a bid to save money, a managed service offering provides outsourcing on a proactive basis. Under the terms of such an agreement, a managed service provider takes managerial responsibility for certain business functions with the aim of utilising cheaper resources based overseas but maintaining the responsibility and quality expected in the home location. While the ultimate aim is to improve operations and reduce costs, it can also be seen as an alternative to the break/fix or on-demand outsourcing model where the service provider performs on-demand services and bills the customer only for the work done.

With the increasing pressure on organisations to cut costs, particularly in the areas of real estate and staffing, managed service offerings are becoming much more popular. According to a recent report by US research company MarketsandMarkets, the global managed services market is expected to grow by about 11 per cent a year over each of the next four years to almost $258 billion.

So why is this, and what is the attraction?

Managed service providers offer their clients complete support, helping to make their business more profitable and sustainable. Rather than singling out individual parts of a business and shipping activities to different locations, managed service is more of a strategic process intended to improve operations and cut expenses over the longer term. As well as giving the client access to more cost-effective services that wouldn't be possible in-house, it also helps free up internal resources to focus on the areas that can be improved internally.

> "The ultimate aim is to improve operations and reduce costs. "

For those availing of the service, it is all about reducing or controlling ongoing expenditure and assisting businesses of all sizes to avoid the feast-or-famine struggle in more ways than just revenue stability. By partnering with the managed service provider, they can improve efficiency and time-to-market, as well as increase security and peace of mind. A managed service agreement also facilitates the sharing of risks associated with adopting new technology and provides economies of scale that ultimately help cut costs.

By contrast, for those providing the service it is a way of enhancing their relationship with the client. By partnering with their clients to improve their clients' business, they are able to provide a more all-round service, offering longer-term benefits to all parties involved. Moreover, it is also a source of predictable revenue for the provider, which in the current business environment can be twice as valuable as unpredictable income generated by individual contracts.

STRATEGY

So why the recent growth in the sector?

Increased demand for improved IT infrastructure and the ever-growing number of regulatory compliance issues facing the financial services sector is putting yet more pressure on already tight budgets. Firms are being forced to look for alternative and more cost-effective ways of moving their businesses forward, including deploying activities into the cloud.

For many organisations, entering into a managed service agreement enables them to take advantage of new developments that they wouldn't otherwise be able to. Meanwhile, increased demand for end-to-end application hosting services, the rising sophistication levels of the associated application architecture and the inability of many companies to pay large wages to teams of skilled IT staff is also improving the appeal of the managed service offering.

At Brickendon, we are enhancing our managed service offering to provide what our clients need – a safe, secure low-cost environment with highly-skilled, but lower-cost experts, whose aim is to help your business excel. Gone are the days of the testing team sitting offshore in India and being visited once or twice a quarter by an executive flown in from the London or New York headquarters. Today, it is about offering a full all-round, cost-effective service, providing delivery and financial benefits to the client in a more agile way so results are achieved more quickly.

At Brickendon we aim to work with our clients and understand their needs and challenges to ensure we provide a tailored service to meet their requirements. For more information about our expanding managed service offering, email us at info@brickendon.com

Brickendon's Managed Service Offering

Helping take your business to the next level

At Brickendon we are enhancing our managed service offering to provide what our clients need – a safe, secure, low-cost environment with highly-skilled, but lower cost experts trained to take your business to the next level.

For us, it's about knowing what you want and tailoring the service to suit those needs. We are client aligned, business focused. We are Brickendon. Contact us to find out more.

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WHAT ARE THE MAIN CHALLENGES IN IMPLEMENTING FRTB
By Richard Cryer, executive director

Another day another regulation, and this time it's the Fundamental Review of the Trading Book. FRTB, as it is known, is part of the Basel III rules and is aimed at significantly transforming the way banks manage their capital requirements and how they are structured and managed internally.

Risk models, liquidity horizons and data for risk calculations, back testing and hedging will all have to be changed to meet the new regulatory guidelines when they come into force in January 2019, with a significant component of this change impacting desk structures and their oversight, management and reporting.

While banks and other financial firms are no strangers to regulation, ensuring your firm is ready for all the upcoming legislative changes requires significant time and effort. So, what does the introduction of FRTB actually mean for financial institutions and what are the main challenges facing those seeking to implement it?

1 Data

As with most regulations, the quality and supporting infrastructure of an institution's data is fundamental to achieving FRTB compliance. FRTB necessitates a number of specific data challenges in terms of understanding the data, the volumes of data required and the quality of that data. One example of the challenges in understanding the data is the distinction of the boundary between banking and trading books. Transactional data will need to be strictly classified in one of these two categories, with robust governance to ensure compliance with the rule set making that distinction. Another issue is the real-time reporting requirement for intraday risk and the comparison between risk management and pricing models. In addition, the management of reference data in terms of client, book, instrument and market remains a challenge with respect to maintenance, especially when volumes of data increase. As with BCBS 239 and other banking regulations, reliable golden sources of data that can be independently validated will be crucial to achieving compliance.

2 Technology

One way of dealing with these data challenges is to improve the use of technology. Implementing common data hierarchies on big data infrastructure, such as Hadoop, HDInsight or NoSQL, can significantly help manage your data. Still, there are considerable challenges associated with migrating data, including optimising the distribution infrastructure for more grid-distributed calculations, updating aggregation infrastructure to cope with more dimensions, and transforming larger data sets. All of these need to be addressed in a structured manner that provides a framework for good, compliant data management in the future. It is also worth noting that several aspects of the FRTB guidelines are still under consultation (eg. the impact on the Credit

Value Adjustment (CVA)) and local regulators are not due to publish the final rules until next year. As a result, any technology changes need to be flexible enough to adapt to additional needs in the future.

3 Structure and cost of business

Under the new guidelines, trading activities for products with more non-modellable risk factors will attract higher capital charges and need to have robustly defined business cases in order for them to survive in the post-FRTB world. It is likely that more exotic derivative products will be supported by fewer institutions as it becomes increasingly uneconomical to write this business. The location of certain operations and alignment to the Basel regulatory reporting structures will also have an impact on desk structure going forward as banks struggle to satisfy the need for real-time desk monitoring.

4 Time and cost

Meeting the regulatory objectives of any new legislation in an efficient and timely manner is a challenge, particularly given the reduction in change budgets and pressure to reduce high-cost headcount. The increasing capital requirements, homogenisation of products and pressure on location strategies required for FRTB compliance, means institutions need to develop a realistic and achievable roadmap, whilst also taking into account other data-centric regulations such as MiFID II and BCBS 239. In addition, in the UK the Senior Managers Regime (SMR) places greater accountability on material risk-takers responsible for the bank's activities and as a result, banks are increasingly looking for the validation of compliance through their internal audit and assurance functions.

5 Model Risk Management

FRTB requires models to be documented with a strong emphasis on model-risk management and the ability to demonstrate 'real' price criteria. Models need to determine accurate profit and loss attribution at a desk level, and should also be back-tested. Failure to do this will result in a requirement to switch back to standardised models, implying higher capital charges. One particular challenge is that some risk factors are not easily modelled, and the process by which this is performed needs to be made clearer, possibly by ensuring the availability of good quality stress-test calibration data. The danger here however is that many products would be forced to use the more punitive standard model.

In addition to these challenges, there are also the 'softer' HR impacts of the FRTB guidelines. The rearrangement of trading desks and more stringent requirements for staff job descriptions aligned to those desks and their strategies and business cases will have a significant impact on a company's organisational structure. Anything that fundamentally impacts a person's role, their responsibilities and authority levels, and directly links them to a reportable, regulator-approved business case and strategy is likely to cause a significant shift in where and how businesses are run in the post-FRTB world.

While the deadline for compliance is still over a year away, there is no time for complacency. Banks need to seize the opportunity and start preparing now to ensure they are ready when yet another regulatory deadline crosses the finish – or is starting? – line.

BRICKENDON PARTNER NATHAN SNYDER SHARES HIS THOUGHTS ON THE REGTECH INDUSTRY

Q **What are the top trends for the industry this year?**

A *"It's all about data. The availability and portability of data will be a big item on the agenda in 2018. The EU General Data Protection Regulation (GDPR) and the second Payments Services Directive (PSD2) both give consumers the right to access and migrate their data between service providers. This coincides with the non-regulatory push towards open APIs in banking applications which is seen as a competitive advantage or a must-have by most financial services organisations. The packaging, accessibility and security of data portability will be a key area of investment.*

"Cost Reduction will play a big part. Since 2017, the escalating technology cost of regulatory compliance is being addressed across the board. Regulatory change is still happening, but the large investment in regulatory reporting technology is now paying off with only incremental changes being required for new regulations. Financial institutions are trying to capitalise on this by changing their RegTech teams from large-scale change teams to ongoing operational teams with the associated location strategies and reductions in cost.

"Vendor Technology will be another area of focus for financial services as the operational risk associated with RegTech is migrated out of the institution to third parties. Many organisations have been working flat-out to meet tight regulatory deadlines and have had to make compromises in their technology build along the way. This has led to in-house RegTech builds that are expensive to maintain and have long remediation backlogs. In most cases, in-house RegTech builds offer no competitive advantage. This, coupled with the high cost of maintenance, makes them perfect candidates to be replaced with third-party technology in order to improve effectiveness and reduce costs."

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Q What are the biggest challenges facing the RegTech sector this year?

A *"The largest challenge will be to determine the right third-party vendor technologies to back. The complications and penalties of regulatory compliance mean that full-on outsourcing will be seen as a risky and undesirable option. However, the high maintenance costs and lack of competitive advantage make in-house RegTech builds prime targets for replacement with third-party RegTech offerings.*

"There are a lot of excellent third-party products on the market, for example, Brickendon has identified nine significant players in the transaction reporting space alone. Choosing the correct RegTech vendors will be a significant undertaking requiring independent counsel."

At Brickendon we have a host of RegTech experts who can help transform your business. Contact us at info@brickendon.com to find out more.

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