Brickendon Journal 02

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Move Over Business Heads, Today It's All About Technology

The progression path to the top of a financial institution or multinational is changing. Where the highest positions were once occupied by business experts, with project management and financial experience, it is now all about technology skills and expertise.

As we become more and more reliant on technology in our day to day lives, businesses are focussing on how they can maximise their investment in IT. Knowing and understanding this complex space is giving those from a technology background a leg up in leadership roles across all companies including financial services.

Several chief information officers at large investment banks have recently moved up within their respective organisations to become chief executive officers, and others, have quit as CIO of one company to become head of another. Cisco CIO Rebecca Jacoby is one of five executives believed to be in line for the CEO job, and companies in real estate, oil, services and healthcare have also appointed CEOs who are former CIOs.

So why is this happening? Organisations are spending more on technology, making it an increasingly important part of their business. As firms invest more heavily to gain a competitive advantage over their rivals, this intense competition between trading houses, particularly in high frequency trading is akin to a technological arms race.

When such a large part of your business is reliant on technology you need someone who understands that space to lead your company. In the future, without a strong foundation in IT it will become increasingly difficult to get to the top.

These institutions have recruited huge technology teams to design and implement developments in everything from regulatory change and cybersecurity, through to big data and high-speed networks. The global IT workforce at Credit Suisse is 10,000, more than half of the firm's total global headcount, while at Goldman Sachs it is 8,000, equal to about 25 per cent of the workforce. According to Parekh, these people tend to be more analytical and capable of providing more practical solutions by comparison to people from a purely business background.

Tom Bauer, who made the progression from CIO of Allianz Life to COO of Security Life described the opportunity to take on the new role as bringing a new dimension to his skillset. In an interview for a blog written by Martha Heller, president of executive recruitment firm Heller Search Associates, Bauer said he believes the propensity of IT departments to accept change gave him the ability to look with a fresh perspective at other areas of the overall business where change is needed.

"IT leaders live with change day in and day out," he said. "That orientation towards change allows me to look with a fresh perspective at areas of operations where we can drive out costs and deliver better customer service."

"In the future, without a strong foundation in IT it will become increasingly difficult to get to the top."

The change in required skillsets for these managerial positions coincides with a switch in focus on the ground in investment banks and other financial institutions. The heavy focus on regulation in the financial markets is pushing firms towards more innovative solutions in order to facilitate the required fast response.

Automating processes can save time and money, particularly in relation to regulatory compliance. JPMorgan estimates it will spend more than $3 billion in coming years to comply with more than 14,000 new regulations arising from legislation such as the Dodd-Frank Act, Basel III and EMIR. These costs would likely be significantly higher without the benefits of modern technology. Understanding and implementing this change efficiently requires deep understanding of IT.

So why has IT become so important to these institutions? As with most business initiatives, it comes down to two simple things: saving time and money. A 5 per cent saving on a £1 million is a significant saving for any firm.

In addition to the need to respond quickly and accurately to changing regulatory requirements, company executives also have to embrace the trend of agile working. Originally the domain of IT departments, agile methodology, which involves iterative and incremental development, is now being rolled out to projects across the financial sector.

An agile team is cross functional, so an individual with technical skills is a much better fit in such teams.

In the end, it's all about innovation. What can we do to help cut costs but stay in the current digital market place?

Despite conflicting priorities and the sluggish economic climate, 2012 saw banks increase their investment in innovation. In fact, a survey conducted by Infosys showed that 76 per cent of banks increased their investment in innovation from the previous year.

So, on top of the accepted shift in importance of technology within the business, companies will, in the future, have to embrace the importance of technology in their leadership structure. Organisations that fail to harness the power of new technology in this way may be doing it to the detriment of their customers and employees.

In the long run, digital leader will become synonymous with leader and they will be one and the same.

Chris Burke
Managing Director

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On the road to a competitive UK banking sector

How some regulations missed the point

The global financial crisis triggered in late 2007 has caused seismic changes across the financial industry. New regulation is being drafted and fine-tuned on a daily basis and the banking sector is playing catch up as to how to comply within each jurisdiction as well as globally.

"The aim of the majority of the new regulations is to increase competition and enhance transparency in the banking sector "

The aim of the majority of the new regulations is to increase competition and enhance transparency in the banking sector by reducing the risk exposure of "too big to fail" firms and increasing measures to monitor high-risk activities. However, there is no doubt that it has made it more complicated and costly for banks to operate. Many of the stated objectives seem counter intuitive and this article will consider what will be the catalyst for the UK government to reduce the impact of regulation, change from its negative bias towards banking and increase competition in the banking sector.

If we look back at history, we can see what banking looks like when it focuses more on local rather than global markets, when competition is limited, and transaction costs are higher.

The Big Bang, which was implemented via the Financial Services Act 1986, broke apart the oligopolies which operated in London and more controversially, moved to a model of self-regulation. Some of the challenges firms faced were similar to where banking is heading today: firms charged clients high rates to do business, there was segregation between what different banks could do and there were few competitors in each trading sphere.

When the Big Bang came in it allowed institutions to offer banking, investment advice and share trading, which were previously all separate.

It was also a proactive move to stem the tide of competition from other financial centres within Europe and enabled London to become a financial services hub to rival New York.

If we move forward to today, the international factors affecting competitiveness in financial services are as strong as ever. There is less regulation and it is easier to operate a global bank from the US, Germany, France or Hong Kong, than it is to operate out of the UK.

By contrast, the UK has a triple whammy of higher capital requirements, the threat of ring-fencing their investment operations from their retail ones, and restrictions on how it pays its key staff with large retained earnings. All this is reducing the competitiveness of banking within the UK and deterring highly-mobile talented individuals from choosing to work in the UK.

The higher the costs and barriers, and lower the return, the less firms will want to enter or remain in a stated industry. Costs can be in the form of taxation (for example the Banking Levy raised £1.6 billion in 2012-13, or the upcoming EU Financial Transaction Tax) or in the form of operating costs relating to, amongst other things, compliance. Standard and Poor's estimates that the eight largest US banks will spend on average $34 billion a year complying with the Dodd-Frank Act, while the average cost of complying with EMIR is estimated to be €15 billion annually for the same firms in Europe.

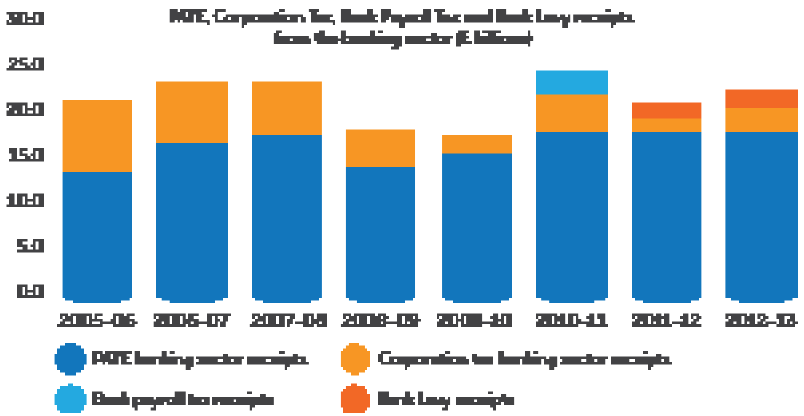
All this is forcing banks to review their operations and decide where they can achieve the greatest return for their capital. We have seen this recently with Deutsche Bank, Credit Agricole and JP Morgan seeking to exit the commodities arena and Barclays scaling back its Fixed Income Currencies and Commodities (FICC) operations.

Normal market forces mean that as returns fall, firms leave certain markets and the remaining organisations will return to normal profits as competition reduces and margins increase. In the long run, this is likely to increase the cost of non-financial firms raising finance or hedging their risk.

This is already evident in the clearing arena, where clearing obligations associated with EMIR mean another layer of trading transaction costs for small companies. Moreover, the efforts to make markets more transparent, have also produced side effects, such as making it more expensive, and in some cases even unaffordable, for banks to do business. Driving some business out of certain markets means the return to a more oligopolistic state where only a few players operate with large shares of the market in a certain space.

Take for example the repo market; the cost of capital and requirement to hold more collateral has resulted in a reduction in the number of banks willing to make a market. The remaining players have an increased cost of doing business and have started passing those charges onto their clients. The exact effect on clients remains to be seen, but they face a stark choice between being unable to hedge their risk and the higher costs of hedging as banks become unwilling to commit their balance sheet to a repo market with lower returns.

One of the key factors that seems yet to have a major impact on the UK government's policy is reduced taxation revenue. Income from banking sector taxes totalled £21.7 billion in 2012-13, just slightly below the £23.2 billion and £23.3 billion achieved in 2006-07 and 2007-08's respective pre-financial crisis environment. However, while the overall income is little changed, the corporation tax portion has fallen to £2.3 billion from £7.3 billion (see chart below).



Discouragingly, there seems to be little will in Westminster to address the issue, or to encourage an industry that generates such large amounts of tax for the UK as a whole. This is despite the fact that many large multinational banks who contribute to these receipts could shift their operations to other jurisdictions where cost bases are lower.

So what about the impact on the overall economy? Businesses, whether operating in the financial industry or not, need access to a reasonable number of financing options, including the ability to raise capital, the facilities to lend and borrow, and a provision to hedge risk. If these services are unavailable or the associated costs too high, there is a real risk of organisations being deprived of what they need to run and grow their businesses. The impact of this on jobs, on profits and on tax revenue appears substantial.

Multiple layers of regulations have different impacts and the side effects are not only limited to managing banks' profitability or to smaller organisations. The second-largest British bank Barclays recently announced plans to cut 19,000 banking jobs, including 7,000 highly-skilled positions from its investment banking operations, by 2016. Almost three quarters of the job losses will be in the UK. If other banks follow this trend, the City, the heart of the British economy, will start to look like a very different place.

At some point, the UK government is likely to realise that the stricter rules imposed on banking operations might be detrimental to the country as a whole. The question remains as to once they do, and the negative effects accumulate and start to outweigh the benefits, will we be back on the path to looser regulation again?

"What the industry and greater economy needs, is not deregulation or a return to the self-regulatory model of the big bang, but changes in the current legislation that could foster competition and strengthen risk management without hindering business growth," says Brickendon Managing Director Chris Burke. "Smart and lean regulation will help us address the real issues that seem to have been missed with the current set of regulations."

	UK	US
Regulatory Tightening 1930s-70s		• **Glass-Steagall (GS) Act (June 1933):** came into effect following the Great Depression of 1929 to protect the average American operating in the financial markets. It was criticised for not having grasped the nature of investment banking. • **The 1940 Investment Company Act:** generally received well, but blamed for reducing competition. This act regulated separation between the broker and dealer organisations.
Regulatory Loosening 1980s-90s	• The big bang – **The Financial Services Act 1986:** allowed banking, investment advice and share trading to co-exist in same firm thus encouraging consolidation • Introduction of self-regulating organisations	• **Depository Institutions Deregulation and Monetary Control Act of 1980:** relaxed the regulation enforced by the GS act. • **Garn–St. Germain Depository Institutions Act of 1982:** allowed variable-rate mortgages and often criticised for contributing to the savings and loan crisis in the late 1980s. • **Gramm-Leach-Bliley Act (GLBA, Nov 1999):** effectively repealed the Glass-Steagall act, which led to the 'universal bank' model
Regulatory Tightening 2007	• **EMIR (2013):** Trading and reporting transparency, focus on OTC derivatives and Central Clearing counterparties and risk management • **Vickers Report (2013):** Ring fencing of retail operations from investment operations at UK banks with over £25 billion in retail deposits globally • **CRD IV (Basel III):** Bank of England's Prudential Regulation Authority (PRA) imposes increased capital requirements for UK banks, including additional buffers for systematic important organisations	• **Dodd Frank (2010):** Key sections around reporting, clearing and execution. Effects UK banks trading in US denomination • **Dodd Frank - Volcker Rule (2010):** Prop trading restrictions at banking organisations

Regulations from the big-bang to today

Approaching Regulation Holistically

"The idea is that businesses use regulatory investment to get the fundamentals right."

Missed opportunities are not really something any business wants to hear about. But Nathan Snyder, a director at Brickendon Consulting, believes financial institutions have failed to take full advantage of opportunities afforded by the recent changes in the regulatory landscape.

By implementing ad hoc individual technological solutions to address the raft of new regulatory requirements, banks and financial houses have failed to address some underlying issues affecting their businesses. As a result, they have missed out on the opportunity to future-proof some of their operations.

"Businesses tend to respond to regulatory requirements by implementing either a strategic or a tactical regulatory solution," says Snyder, who has recently completed the successful implementation of a delegated reporting regulatory project at a large tier one investment bank. "Either way, they take their current complicated architecture and poor data and embed it into these new systems, making architecture simplification and golden source data strategies even harder to implement."

Snyder believes that firms need to respond tactically to regulations as these are always evolving, but at the same time take the opportunity to invest in strategic underlying systems, such as sourcing static data (client and product) or market data from a single system across the bank, or creating a consolidated post-trade database.

"The idea is that businesses use regulatory investment to get the fundamentals right," says Snyder. "In the long term this will provide savings."

According to Portia Wilson, a senior Brickendon consultant working on site in a bank's regulatory compliance team, the first decision you make when assessing how to react to any regulatory change is whether it will immediately enhance or restrict your business' potential for progress.

With a very full timeline of new regulatory requirements whose own boundaries are continually evolving right up until the compliance date, there isn't a lot of time to decide how to approach these issues. As a result, many financial institutions were forced to make quick decisions to address individual requirements, without time to address the longer term impacts on the business.

"It may be more sensible to shut down those parts of the operation and transfer the business to a neighbouring Jurisdiction."

"They may find themselves making expensive and time-consuming changes in a region, or for a product, that doesn't actually make the business much money," says Wilson. "Businesses need to decide if it is worth adapting their operations to suit reporting regulations in a particular region if they only have small operations there."

In many cases, it may be more sensible to shut down those parts of the operation and transfer the business to a neighbouring jurisdiction. Although in some situations, some institutions may decide to run parts of the business as loss leaders if the clients in that area are particularly valuable or attractive.

"It's all about being strategic and thinking things through," says Snyder, adding that short-term, reactive, tactical decisions do little for the long-term health of your business.

However, the short timeframes required to comply with some regulatory changes don't always allow time to consider a strategic approach and it is often difficult to address all the corresponding issues at once. Ideally, businesses will take the time to assess which regulations apply to which markets and whether the firm's operations in those markets are still viable once the additional costs of addressing the regulatory requirements have been accounted for.

"The regulations are still coming and there is no end in sight. Any time is a good time to take a full holistic view."

One of the perils associated with a purely tactical approach, is that you risk ending up with a technology system designed to do only one thing – address the most pressing regulatory issue at that moment.

"You end up with a solution that is adapted to respond to a particular regulatory requirement and then end up having to further adapt it to suit other regulations," says Snyder.

By contrast, what businesses should be doing, according to Snyder, is addressing any fundamental issues with the data concerned and incorporating any necessary changes into the development process designed to address the regulatory requirements. "This way you are avoiding embedding your data problem into your regulatory reporting requirements."

Luckily for business involved in regulatory programs, Snyder said it is never too late to make the switch.

"The regulations are still coming and there is no end in sight," he says. "Any time is a good time to take an holistic view."

Businesses also need to consider the holistic communication process. There is an expectation from clients that the bank will demystify the regulations for them and consistent communication tied into a single pan-regulatory strategy is key.

Each set of new guidelines requires different sets of data to be collected in different ways. Ideally you don't want to keep going back to the same client asking for different data sets without explaining your strategy. "You need to work out one simple communication theme that clearly shows the long-term aims of the project and the strategy of the company," says Snyder.

In short, banks and financial institutions need to think more seriously about the long-term impacts of temporary fixes to immediate problems. While it may seem like the ideal response in the short-term, it is rarely the most successful or profitable response for the business in the long run.

Groundhog Day or a New Challenge?

> *"The sector as a whole has seriously underestimated the complexity of implementing valuation and collateral reporting"*

Nathan Snyder, Director

Delegated Reporting Next Steps...

With the February 12th deadline for European Market Infrastructure Regulation (EMIR) Delegated Reporting now behind us, banks may have thought they can relax. They would be wrong. The next challenge of reporting collateral and valuations for EMIR eligible trades is already upon us.

> *"Service providers will need a clear communication strategy to ensure that the information they publish is structured."*

From August 12th, financial institutions will be required to report these figures to Trade Repositories (TRs). However, some market participants have already announced their intention not to support collateral and valuation reporting through their Delegated Reporting service, giving third-party providers an opportunity to acquire more regulatory reporting throughput and potentially achieve the critical mass they are seeking.

The technical difficulties of collateral and valuation reporting are widely acknowledged and are largely similar to trade reporting: new sources of information, new rules and new message types for reporting.

"The sector as a whole has seriously underestimated the complexity of implementing valuation and collateral reporting," says Nathan Snyder, a director at Brickendon. "This is particularly true for those offering Delegated Reporting where exposing internal data to clients could have significant impact on those relationships."

In addition, there are also a variety of legal challenges that need to be addressed. For example, if a Delegated Reporting offering includes provision of a mark-to-model valuation on behalf of the client, the client needs to sign-off on the model methodology at a board level. Determining how to address this without publishing intellectual property or losing competitive advantage needs to be solved, though as of yet there is no obvious solution.

"Service providers will need a clear communication strategy to ensure that the information they publish is structured and, more importantly, acceptable to all clients with minimal variation," says Snyder. "The process of publication, feedback, negotiation and amendment will be time consuming and will involve the key decision makers in any number of valuable clients. Sufficient preparation and planning is essential."

So, while most institutions now have good metrics on the accuracy and success rates of their regulatory reporting obligations, the impact on the bigger regulatory picture remains unclear.

With the disparate interpretations on reporting FX Forwards by the European Securities and Markets Authority (ESMA) and the Financial Conduct Authority (FCA) running right to the wire, many Delegated Reporting providers took differing views on the regulations. It is possible the same thing may happen again, leaving each institution to handle the situation differently.

Trading by Numbers, Death by Regulation?

"Unlike traditional manual trading, trading using algorithms allows large orders to be processed automatically."

Algorithmic trading has been an important part of trading strategy for many years now. Unlike traditional manual trading, trading using algorithms allows large orders to be processed automatically and executed according to a sophisticated strategy. This automatic process has contributed to a reduction in trading costs and dramatically increased efficiency.

Algorithmic trading also enables optimal prices to be achieved as smart-order routing allows information from multiple trading venues to be accessed simultaneously, meaning that even the smallest of differences in price can be captured.

Automated trading is defined as trading in financial instruments where a computer algorithm automatically determines individual parameters of orders such as whether to initiate the order; the timing, price or quantity of the order; or how to manage the order after its submission, with limited or no human intervention. This definition does not include any system that is only used for the purposes of routing orders to one or more trading venues or for the confirmation of orders.

With the increased technical capabilities, high-frequency trading (HFT) has become increasingly popular. The low-latency means that a large amount of trades can be executed, and cancelled, in as little as three milliseconds, some even say less than one millisecond. As a result, the volume of HFT has soared. In 2012 it was estimated to account for 60 and 40 per cent of equity markets in the US and EU respectively, and was particularly active on derivatives, commodities, foreign exchange and bond markets .

A report by Finance Watch, an independent non-profit members' association which represents civil society organisations and expert individuals in the reform of financial regulation, summarises the characteristics of HFT as follows :

- Algorithms: HFT algorithms could be updated daily to improve execution
- High speed: Orders could be processed in 500 microseconds (millionth of a second)
- Trading venue special services
  - Collocation: Trading servers are hosted physically close to ensure low-latency
  - Direct electronic access (DEA): Direct access to the market makers
  - Flash orders: 'accessing information about the best available prices for listed securities '
  - Data feed: Sophisticated data feeds that process information relevant to trading, for instance, 'newsreaders' algorithms'.
  - Order book feed: Feeds on order volume and history (including cancellation and replacements)
- Low intraday portfolio inventory: possible to maximise a portfolio's daily turnover without large capital commitment
- High order-to-trade ratio: HFT is said to have a cancellation rate of 90 per cent or more in equities
- Trading mainly in highly liquid instruments: HF traders are known to stick to highly liquid markets

Some commentators argue that HFT contributes to market-making, hence increasing liquidity in the market and reducing spreads . However, Finance Watch disagrees with the above claims and has provided guidelines in the second Markets in Financial Instruments Directive (MiFID II).

Among the vast array of current regulations, MiFID II has the most impact on automated trading . The legislation:

- Introduces a market structure framework
- Increases market transparency
- Aims to strengthen supervisory powers
- Improves competition in the trading and clearing of financial instruments
- Enhances controls for algorithmic trading activities
- Provides stronger investor protection
- Generates effective and harmonised administrative sanctions
- Gives access to EU markets for firms from non-EU countries

Finance Watch's 2012 position paper provides regulators' motivation behind suggested MiFID regulation on algorithmic trading. While the corresponding legislation has not yet been finalised, there are clear indications of increased levels of control. Firms who would like to utilise algorithmic trading need to be registered for such trades, have their algorithm looked into by regulators and obtain approval to trade.

Regulators would like to track the process of algorithmic trading to ensure that, if necessary, the circuit breaker can perform its role to prevent sudden increases of market volatility such as the Flash Crash of 2010, when the Dow Jones plunged about 1,000 points, equal to 9 per cent - its biggest ever one-day intraday decline, only to recover the losses within minutes.

The overall objective of the new legislation, is to place more control over speculative trades, and it is likely that traders will be required to report their algorithms on an annual basis, disclosing their objectives and details of the trade execution. This means trading organisations will need to demonstrate a risk-management framework to put controls in place and make sure algorithms are developed consistently with a high-level trading strategy.

MiFID II is also likely to provide an incentive for investors to move away from so-called 'dark trading,' which is offered away from public exchanges and remains confidential. For example, HFT has been cited as one of the reasons why genuine investors were forced to move away from the lit market (ECN stock exchanges where the order book is made public to all subscribers) for fear of becoming a victim of false liquidity generated by HFT.

It is also widely expected that new regulations would introduce a minimum tick-size, however, it remains unclear whether there would be a minimum resting time and if there would be a charge applicable to cancelled orders.

The introduction of such controls on the algorithmic trading market means that the way automated trading works currently is about to change dramatically. However, the legislation responding to the directive has not yet been finalised, and the fact that it is interpreted and administrated at a national level, leaves room for inconsistency and lack of clarity.

Regulators are faced with an equally challenging problem of understanding and examining the algorithms and providing feedback or approval in a timely manner. In addition, it is expected to be another expensive implementation exercise for compliance. Implementing MiFID I was said to have cost the industry £2 billion, and the second phase is expected to cost even more, with research firm JWG estimating a cost of as much as £10 billion.

So, what does this mean for algorithmic trading? Is it likely to regress to simpler and more straightforward algorithms, or will innovative

"The way automated trading works currently is about to change dramatically."

trading strategies emerge to find their way around the compliance issue? Nathan Snyder, a director at Brickendon, says: "It is unlikely that there will be much reduction in the complexity of algorithms for trading, but, depending on how the regulators implement MIFID II, the regulation implies that some trading strategies and algorithms could become obsolete."

Whichever direction the industry takes, there is certainly room for more innovative automated trading strategies.

Five Testing Myths Debunked

Manual versus automated testing is a much discussed topic in the testing world. In recent years, Brickendon has seen increased demand for automated testing as stakeholders recognise the strengths and benefits of the automated process. However, while it is widely acknowledged that automated testing can save time and money, it is not always the best option.

"Automation testing is not always more efficient than manual testing."

Brickendon test manager Bala Ethirajalu and test consultants Thenappan Gnanasambandham, Divya Jhaveri, Viswa Muthukrishnan, Priya Gupta and Richa Walia discuss five common myths in the manual vs automated testing argument.

Myth 1: Manual testing is 100% replaceable by automation

According to Gnanasambandham, manual and automated testing are complementary processes. While automation testing plays an important role in reducing costs and time taken to complete a test project, there are human elements in manual testing that cannot be entirely replaced by machines.

For instance, usability testing is an area where professional judgements are crucial as it is all about testing the programme in the end-users' perspective. Moreover, certain forms of interactions within an application are too unique, too complex and too expensive to economically incorporate into automated tests.

"This is why automation testing is not always more efficient than manual testing," says Ethirajalu. "You need to consider the effort taken to automate a functionality with the importance and/or necessity of the functionality to be automated."

Jhaveri added that in some situations, the creativity and intuition of finding defects is achieved through experience and learning, which cannot always be demonstrated through automation.

Myth 2: Where possible, automation is always the way to go

Walia believes there is a risk in always implementing automated testing processes, particularly when working on greenfield initiatives. She says that manual testing is more appropriate where development is still in the early stages because it can be started immediately without investing time writing automation scripts.

Before deciding whether to automate any test case, it is wise to consider the time taken to automate; cost (ROI); complexity and maintainability.

"It has to make business sense to automate anything," says Gnanasambandham. "If all of the above factors are considered and automation benefits outweigh manual testing, then automation is the way to go."

Without doubt, in many situations automation can save time and achieve good coverage. However, if the application to be tested is not heavily data dependent and is going to change frequently, then manual testing is more appropriate.

Myth 3: Benefits of automation always outweigh manual testing

"It all boils down to two clear benefits of automation: saving time and money."

According to Gnanasambandham, the main benefits of automation are:

- Increases the depth and scope of tests to help improve software quality
- Possible to execute thousands of different test cases during every cycle of testing, providing wide coverage
- Able to simulate thousands of virtual users interacting with software and applications, which is particularly useful in stress, load, performance, penetration and application programme interface (API) testing
- Able to run the same tests multiple times

Gupta believes that it all boils down to two clear benefits of automation: saving time and money. "If one of these goals cannot be met by automation, manual testing should be considered," she says.

Myth 4: Testing experts are specialised in either manual or automated testing and the skills are nontransferable

Jhaveri believes manual and automated testing skills go hand-in-hand and can never be independent of each other. "The automated tester needs to have manual testing skills in order to decide what should be automated," she says. "The skills are transferable and it is beneficial for both parties."

According to Jhaveri, the automated tester will have to execute the test scenarios manually in order to automate the action, while the manual tester can use the knowledge of the system to write logic for maximum automated test coverage.

Gupta agrees: "As the technology evolves, so do the testing methods, hence flexibility is the one trait in testing experts which aids specialisation and skill transfer."

Myth 5: Whether to choose manual or automated is a simple question as all test projects are similar

Brickendon's test specialists believe the misperception that 'automation is always better' is harmful and acknowledge that it is important to thoroughly understand the nature of each project before deciding what approach to take.

Gnanasambandham suggests that all projects need to have the right balance between manual and automated testing, and the challenge, he says, is to find the appropriate balance for each project, not to choose one over the other.

Jhaveri suggests stakeholders ask themselves the following questions to help make a more effective plan for testing:

1) How stable is the system?

2) What kind of test coverage needs to be achieved?

3) How frequently will the system be changed?

4) What technology is used to build the system? And how easily are the automated tools available in the market to automate such a technology?

5) What is the project's budget? (The ROI for test automation are not immediate.)

"One doesn't obviously outweigh the other in the benefits it provides to a business."

So, according to Brickendon's testing experts, it is fair to say that while there are pros and cons associated with both automated and manual testing processes, one doesn't obviously outweigh the other in the benefits it provides to a business.

"There is definitely place for both automated and manual testing in business today as each process fulfils a particular role," says Jhaveri. "I don't envisage this situation changing in the foreseeable future."

Women and Technology Can Equal Success

"Why do females still only make up a quarter of the workplace?"

As clichéd as it sounds, the concept of women in technology, or in any senior business role, is somewhat of an attention grabber at the moment. Names such as Sheryl Sandberg, Marissa Mayer and Virginia Rometty are paraded about as impressive female role models with the aim of showing that women are capable of anything. So why do females still only make up a quarter of the workplace, and does this matter?

Earlier this year, the UK government released its third annual progress report into women on boards, with its authors claiming that "real progress" had been made, with more women than ever before in the boardroom of the UK's top companies. The study also highlighted what it called the "growing recognition of the benefits gained by business, the economy and wider society" of diversity and inclusivity.

Speaking at an event to launch the report in March, the then Minister for Women and Equalities, Maria Miller, said: "It makes clear economic sense for women to be able to rise to the top.

"Good progress is being made in Britain through a cultural shift that promotes on merit, not through the mandatory quotas advocated by others.

"Supporting women to fulfil their full potential should be a core business issue; not just so we can reach our target of 25 per cent of female appointments to FTSE100 boards by next year (2015), but for the long-term sustainability of our economy," she said.

"Supporting women to fulfil their full potential should be a core business issue."

The 2014 Cranfield FTSE Report found that just two FTSE 100 companies still have all male boards, compared with 2011, when one in five boards were all male. Things are also becoming more equitable in the FTSE 250, where all male boards are down by more than half compared to three years ago.

Miller is not the only one campaigning for better diversity in UK businesses. According to a string of recent reports, including one by the UK government, women are particularly underrepresented in the field of technology, with only 17 per cent of the country's technology-related jobs held by women. In Stem (science, technology, engineering and maths) subjects, women make up just 13 per cent of the workforce, while in engineering alone, the figure falls to as low as 8 per cent.

A separate study produced in 2011, found that women fared slightly better in the financial world, with females accounting for 40.5 per cent of employees in the securities, investment banking and commodities industries combined. However in investment banking alone, women make up just 25 per cent.

As a result, many campaigns and lobby groups have been set up with the aim of raising these figures. Stemettes, one such group founded with the aim of inspiring the next generation of females into Stem fields, has set a goal of getting the number of women in the Stem workforce up to 30 per cent by 2020.

"We need people to become role models, but they can also facilitate changes that allow women to feel more comfortable in these positions," Professor Maria Tamboukou, professor of feminist studies at the University of East London, told Brickendon.

“The issue stems from how we raise our children and teach them who they are.”

Tamboukou believes that the key is to change the way women think about their roles: “Children learn gender from a very early age and while historically there has been a lot done to address these issues, there is still a long way to go.”

So why is female under representation in parts of the workforce an issue? It is widely acknowledged that diverse groups are stronger, more creative and more innovative. This makes them more competitive and enhances their ability to exploit growth opportunities and generate revenue and profit. A recent study by recruitment consultancy Harvey Nash, also highlighted the fact that women are traditionally associated with the soft skills that are increasingly important attributes for business leaders.

According to the House of Commons Science and Technology Select Committee, women are being put off careers in science because of the pressures of family life combined with “biases” in the workplace. Others believe the reasons are more inbred.

“The issue stems from how we raise our children and teach them who they are,” Sandberg, chief operating officer of Facebook, says in her book ‘Lean In’. “The toys we give them and the words we use – girls are pretty, boys are brave.”

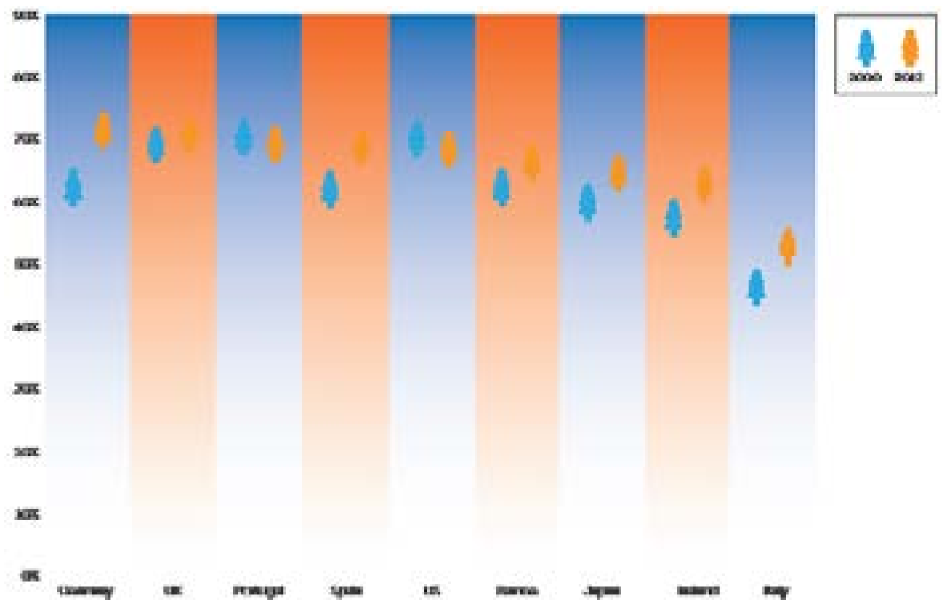
Sandberg has recently launched the “Ban Bossy” campaign aimed at encouraging young girls to become leaders.

“When a little boy asserts himself, he’s called a leader, yet when a little girl does the same, she risks being branded bossy,” she says.

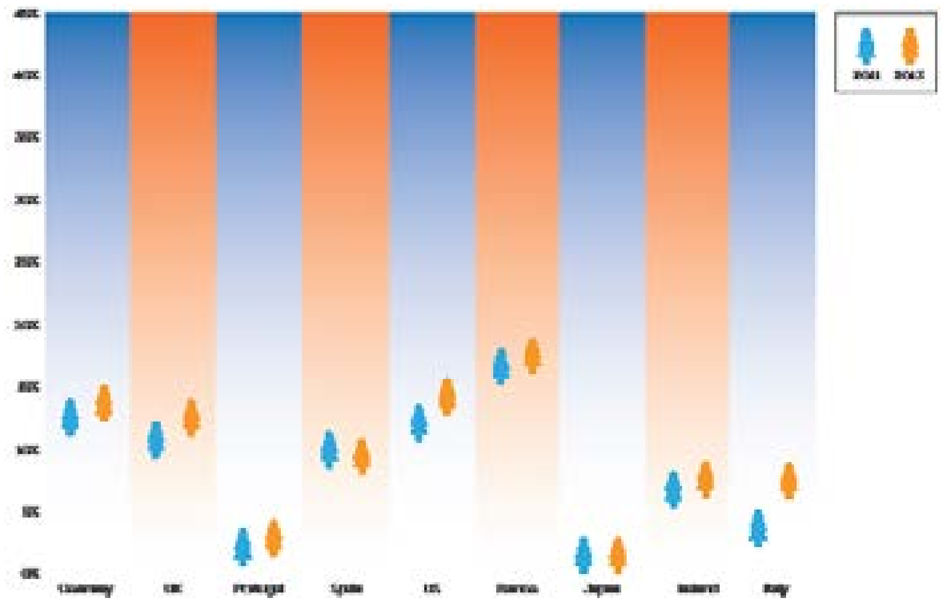
According to Sandberg, words like bossy send the message: “don’t raise your hand or speak up.” By junior school, girls are less interested in leading than boys – a trend that continues into adulthood.

Tamboukou believes there has to be a change in mentality before the number of women in leadership roles increases. “Management roles are structured in a very male way which makes some women feel uncomfortable,” she says. “For a woman to be a good manager it is almost always a difficult position to be in. If you are a good manager then you lose out on your feminine side. If you hold onto your feminine side then you are seen as too soft and not a good manager. It is hard to find a balance.”

Moreover, hiring women into particular roles is not always easy. Multinational oil giant BP, which employs 85,000 people in 80 countries around the world, has pledged that a quarter of its group leaders, and 30 per cent of its senior level leaders, will be female by 2020.



Female labour force participation rate, 2000-2012



Female boardroom membership in publicly-listed companies 2011 vs 2013

One agency recruiter who declined to be named, spoke of being tasked with finding only females for a particular role within a large multinational organisation and being told that the company would pay "significantly" more money for such a candidate.

Still, quotas are not to everyone's taste. While most respondents to the Harvey Nash study believed that moving towards gender parity (at least 30 per cent female representation on boards) would take at least 10 years to achieve, mandatory quotas to force more rapid change were unpopular. Just 22 per cent of respondents were in favour.

The key, said one industry source, is to look at companies that are successfully embracing diversity and seek to replicate their actions. Newer companies such as Google and eBay have built diversity, flexibility and childcare support into their organisations, making it easier for women, and where desired men, to manage the balance between their work and family life.

Alexandra Bradstock, a management technology consultant who has worked in a variety of IT and project management roles in several large investment banks, agrees. She says that while her own experiences of working as a female in very male-dominated environments have been "pretty positive," the presence of senior females within the organisation, such as at Standard Bank, where the chief executive Jenny Knott and head of risk Roselyne Renel were both females, make the inclusion of women into the work environment more acceptable.

So, if the House of Commons Science and Technology Select Committee's warning that the UK risks failing to find enough workers to fill vital jobs in science and industry without increasing the number of women is to be heeded, there is much to be done.

But with a technology industry not lacking in impressive female role models – three of the most powerful technology companies in the world are headed by women: Facebook has Sandberg; Mayer, once the first female engineer at search giant Google, is chief executive of Yahoo!; while Rometty is president and chief executive of IBM - some might say the foundations have been laid.

So before you give your young daughter a Barbie doll and your son a computer game, you may want to think twice about what you may be encouraging.......

Is Choosing Your Own Leave Gambling With Your Future?

It is not very often that a company's HR policy goes viral. However, given the battle for talent – employment in the UK reached an all-time high earlier this year, it is not surprising that people are keen to hear about a company that has chosen, amongst other things, not to track paid time off.

Netflix, the online video content company, has no defined holiday requirements, flexible working hours, pay linked to the top market rates, no formal performance reviews, and a policy of 'adequate performance gets a generous severance package'.

As the contest to attract and retain the best staff hots up, so does the need to recognise and reward valued staff. Many companies offer profit share schemes, salary bonuses and annual salary reviews as standard. Other companies recognise good performance with one-off incentives, via informal reward programs, such as vouchers or meals out, or by using a formal reward system, such as honouring service and commitment. One Australian corporate travel agency even gives a one-carat diamond to anyone who stays with the company for 10 years.

"For me success is not just about profitability, but about the overall culture of the business," Penny Spencer, managing director of Sydney-based Spencer Travel, said in an interview with the Australian CEO Magazine. "We place a lot of emphasis on mentoring team members and celebrating every milestone."

However, not all concepts work in every organisation, and what is right for a digital media agency, may not be right for a large investment bank. After all, many banks and financial institutions require employees to take a minimum of two weeks continuous leave away from the office for both health and compliance reasons.

Netflix's HR Policies	Standard UK HR Policies
Unlimited vacation days	20-25 annual vacation days + bank holidays
No formal performance review process	Annual performance assessments
Pay top of the market	Company pay structure bands
Adequate performance gets a generous severance package	Warning issued if performance does not meet required standards as set out in performance targets
Total flexible working hours	Standard 09:00-17:30 working day, with some companies offering flexitime, but usually within given guidelines
No clothing policy	Smart business dress required, with some places allowing more casual dress on a Friday
No policy on expenses, corporate travel or acceptance of gifts	Specific guidance on what you can and can't expense and how to travel for work

If your company has a large number of hard-driving managers who push to get work out, the idea of freeing, or empowering, your employees to decide for themselves what time off they need is potentially a bad idea. Without fairly clear guidelines, such as 'you are entitled to 25 days annual leave', some employees and managers would struggle to take the time off.

James Baker, a director at Brickendon, likens the decision to take as much holiday as you like when you like to gambling with your job security. "What one set of employees or directors sees as acceptable, might not be the same as another," says Baker.

The issue of self-regulation in the workplace also throws open the question of interpretation. What is one person's good is another person's average or excellent, and without some guidance, it is difficult for people to know what to work for.

"It's about your personal perception of your worth and contribution to the business," says Baker. "It's not always shared by your employers or senior managers. Striking the balance is a difficult thing and particularly hard to standardise."

Jenifer Wright, project management officer at Brickendon prefers to have set guidelines. "Personally I find the unknown stressful and I like to have objectives so I can measure my performance," she says, and isn't alone. Samir Saied, a senior consultant at Brickendon agrees.

"Not all employees would necessarily value freedom and lack of supervision," he says. "An organisation will always have employees with different preferences - some who find it easier to work with clearly defined goals, metrics on progression and clear deadlines so their output can be quantified and measured consistently.

"They view qualitative assessment as subjective and prone to bias which is an inherent element of human psychology."

Moreover, according to Saied, such a corporate culture might not be sufficient to retain the best employees as it does not address different motivations for moving between organisations. "People always desire change and progression, sometimes beyond the remuneration and working culture," he says. "Similar to religious missionaries, the true believers will feel compelled to bring enlightenment to other organisations and create their own legacies."

"Such a policy could be seen as threatening and be off-putting to certain types of people."

Other Netflix innovations such as the open acknowledgement that employees will be dismissed if they don't perform above the industry average and the elimination of formal performance reviews, can also be contentious. Amanda Dee Cameron, accounts assistant at Brickendon, suggests the abolition of reviews might actually increase stress to unhealthy levels, with the fear of being fired and no formal review of performance combining into a toxic mix.

On the other hand, Nathan Snyder, a director at Brickendon, is quick to point out that many investment banks value loyalty in IT professionals because systems are often poorly understood and documented. Therefore there is a need to keep people who know how things work. "This is not the best solution either," he says. "Organisations should remove key-man dependencies and have solid succession plans rather than being held hostage due to poor documentation.

"Policies for rewarding loyalty, if not carefully developed, can send the wrong signals."

Moreover, Snyder points out that if, as a company, you are only prepared to hold on to the star performers, then who carries out the more routine tasks. "If you have an entire team of star athletes, who carries the kit and drives the bus? I think this assumes outsourcing of non-glamorous functions."

Saied highlights the fact that seeking to maximise workers' productivity is nothing new. "Since the publication of Adam Smith's The Wealth of Nations in 1776, employers have been trying to find the right ingredients needed to maximize worker productivity.

"Ultimately the success of a model such as Netflix's depends on a myriad of factors that cannot always be easily realised," says Saied.

"Individuals are motived by different drivers and conceptualise the part they play in an organisation differently.

"Some truly believe, whilst others take a pragmatic approach whereby work is merely a means to an end."

While Netflix's policies have without doubt attracted a lot of attention and opened up significant debate – even in the Brickendon office, there is no doubt that what works for one organisation will not necessarily work for the next.

"There is no one-size-fits-all when developing a healthy, sustainable culture that results in higher performance and a competitive advantage," says Hang Tran, human resources manager at Brickendon. "Not everyone will necessarily fit into the Netflix culture, or that of any other company."

Still, one thing is for sure. Netflix's policy is working for Netflix. During 2013 alone the company's stock more than tripled, it won three Emmy awards and its US subscriber base grew to almost 29 million. What more could the doubters ask for?

It's All About the Connection

Gone are the days of registering with a recruitment agency and sitting by the phone waiting for it to ring. Today, moving on in the professional world is all about social media sites such as Linkedin, Twitter, Facebook and GitHub. The aim is to make sure your profile is accessible to as many companies and recruiters as possible.

"Social media plays a key role in our recruitment strategy and processes," says Craig Whiting, a senior recruiter at Brickendon Consulting, adding that in many industries, Linkedin in particular, is seen primarily as a recruitment tool rather than a networking site.

"Social media plays a key role in our recruitment strategy and processes."

Using social media sites as a recruitment tool is not a new idea, but it is a growing one. According to a survey published by the Society for Human Resource Management (SHRM) in April 2013, 77 per cent of its members reported regularly using social networking sites for recruiting, up from 56 per cent in 2011. The main reason for using the sites, SHRM said, was to locate passive job candidates, search for active candidates, and create interest for hiring by posting information about their organizations.

Whiting and fellow senior recruiter at Brickendon, Pierre Velinor, say their focus is mainly on Linkedin, largely driven by the pool of candidates Brickendon is looking to target and communicate with. According to Whiting, historically Twitter has been less of a professional recruitment tool and more of a way for individuals to communicate their ideas around emerging technology and the software industry.

"Our primary targets are candidates from the financial services sector and these individuals tend to be more active on Linkedin," says Whiting. "We are however actively looking at ways to combine other social media platforms, including Twitter, with our traditional methods of searching to tap into new sorts of candidates."The

SHRM report found that 94 percent of employers using social media favour LinkedIn, little changed from the 95 percent who used it in 2011. Of those human resources professionals questioned, 58 percent said they use Facebook, up from 54 percent two years earlier, while 42 percent said they use Twitter for recruitment purposes, up from 39 percent in 2011.

The evolution of social media has completely overhauled the way recruiters work. Sites such as Linkedin can be used not only as a tool to specifically headhunt candidates for niche roles, but also to build a network, brand awareness, stay in touch with people moving in the market and also to build mini-databases.

"It really is a complete recruitment tool," says Velinor. "The change has definitely been for the better within the recruitment industry, although there is still no substitute for meeting someone face-to-face and building a relationship."

However, there are some downsides. According to Whiting, the development of social media sites as recruitment tools has polarised candidates' opinions, with some banking and IT professionals embracing them as a useful tool, and others rejecting the approach completely. As a result, some potential employees are immediately alienated from the process.

Another risk associated with social media channels involves accusations of intentional disparate treatment. Such sites expose the employer to a wealth of information that can't be used during the screening process, such as viewing a photograph from which gender, race, ethnicity and age could be inferred.

Moreover, it has been claimed that using these tools creates barriers that make it harder for some people to compete for employment, though Whiting disagrees, saying that the openness of the sites and the increased flow of information around job postings, individuals' profiles, recommendations and connections, mean that recruitment is judged purely on merit and how relevant a candidate is for a role.

"For us, I think the diversity of candidates we are speaking to at any one time is a good indication that our recruitment tools promote diversity and certainly that it is a level playing field for everyone when competing for employment with us," he says.

Velinor agrees, saying that social media sites could actually be used in a positive way as an aide to facilitate the drive for increased diversity across the banking and technology sectors.

In addition, the use of sites like Linkedin, allow potential employers to see recommendations from previous employers or colleagues, giving a better-rounded and complete picture of the skill set and how that person is valued amongst his or her peers.

"Social media isn't new or cutting edge, it's mainstream and vital to businesses today," says Velinor. "So to ignore it in recruitment is to ignore something that has become a vital tool in talent acquisition."

Informal Groupthink

"This blindness to hierarchy and in depth knowledge of the key people within an organisation is a useful and respected management tool."

Many managers will have found themselves in the situation where a problem arises and they know exactly who they need to help solve it. It doesn't matter where the individuals sit within the organisation, how many levels up or down, or whether they are in your department, you assemble the group, solve the problem and win the day.

"This blindness to hierarchy and in depth knowledge of the key people within an organisation is a useful and respected management tool," says Nathan Snyder, a director at Brickendon. "However, it needs to be used carefully."

While there are obvious advantages to both the employer and employee – it enables managers to get things done without the bureaucracy that normally frames corporate relationships and gives workers the chance to publicly demonstrate their ability and gain access to senior managers to help progress their careers - it can also be an easy way of cutting corners.

According to Snyder, informal groups are no longer used purely to respond to crises. "It is much simpler for a manager to use informal groups than to pin roles and responsibilities onto an organisational chart," he says. "It is easier to avoid the difficult conversations."

Members of informal groups don't usually receive compensation for their efforts and are instead awarded with prestige. In some cases, the desire to be included can cause suboptimal behaviours and decision making.

Irving Janis, a research psychologist at Yale University, coined the term 'groupthink' to describe several foreign policy disasters, including the American invasion of the Bay of Pigs in 1961. Because membership of informal groups can be easily revoked, participants

are incentivised to keep the group leader happy in order to remain in place. John F Kennedy adviser Arthur Schlesinger recalls withholding his objections during the cabinet's discussion of the Bay of Pigs invasion for fear of being cut from the inner circle.

Whilst the consequences in business are less severe, they are no less likely. Informal groups tend to drive towards agreement based on a single person's vision or maintenance of the status quo. This leads to external criticism causing the group to become even more determined and insular.

"The problem of informal groups is common to most organisations," says Snyder. "Informal groups do have a place – best practice in crisis management encourages them, but they need to be used consciously."

"Informal groups do have a place.... but they need to be used consciously."

Betting on a Bias

In a Monte-Carlo Casino in 1913, a roulette ball drew on black 26 times consecutively. Observing this rare event, many players bet mainly on red in the following games, assuming the ball would fall on red more than black. The result? Those players who bet on red suffered huge losses.

The term 'gamblers' fallacy', which refers to the tendency to perceive that possible future outcomes depend on previous events, dates back to that game of roulette. The players in the Monte Carlo casino knew the chances of drawing black and red in the long-run would be 50/50, but looking at the consecutive 26 blacks, they assumed that there should be as many reds to equalise the probability of red and black. The roulette players' big misconception was to believe that past results affect future outcomes.

While there are many examples of such logical fallacies; eg. the flipping of a coin produces heads five times in a row, so the next one must be tails; or a decision not to buy travel insurance this year because the luggage was lost and an insurance claim made in the prior year, there is no sensible reasoning behind any of them.

In a similar way, an individual novice investor who has seen continual increases in the prices of his stock holdings is more likely to dispose of his shares while they are still rising, in the belief that the positive run must come to an end. By contrast, the strong past performance of a pension fund is more likely to attract the attention of future investors and encourage the influx of cash, despite the existence of disclaimers, such as 'past performance does not indicate future performance'.

In reality, experienced investors and traders use much more sophisticated methods, and are more likely to base their decisions on risk models such as Monte Carlo analysis and other probabilistic models, rather than on the sometimes obvious, but flawed logical fallacies.

A similar phenomenon, often found amongst project managers, is optimism bias, also known as comparative risk judgement. Optimism bias is defined as the belief that one is at lower risk than other people of suffering the implications of negative events.

"It is not always the best option to look blindly at the brighter side when assessing an uncertain future."

It is a well-known fact among project management professionals that positive factors contributing to completing projects on time and within budget tend to be overestimated, while negative factors, including considering possible adverse scenarios, are often underestimated or overlooked, resulting in budget shortfalls and time overruns.

In the same way, developers can be over optimistic about the deadlines for completing different stages of a project or new technology installation, making things sound more positive than they actually are. To address these issues, and avoid any of the delays or additional costs such optimism bias can cause, the industry has developed a series of best practices, processes and checkpoints that can be used either proactively or reactively.

Planning poker, also known as scrum poker, is often used as a proactive consensus-based way of estimating workloads or deadlines, particularly in the software and development arena. By encouraging participants to make estimates by playing numbered cards face down to the table, participants avoid the cognitive bias of anchoring, where the first number spoken aloud sets a precedent for subsequent estimates. This method is most often used in agile software development, but could be utilised in the planning stages of most projects.

So why do we often fall into such traps? In their 2002 academic journal, "Exploring the Causes of Comparative Optimism" (James A Shepperd; Patrick Carroll, Jodi Grace, Meredith Terry. Psychologica Belgica) Shepperd and his colleagues summarised some convincing answers:

- We have a certain desired outcome and focus on this because we want to feel good about ourselves, keep our personal images in society, and also feel that we have stronger control over situations than others.
- We have a 'cognitive short-cut' and associated characteristics of people and the events that happen to them, based on our experience. We then determine how dissimilar we are from others to whom the negative events have occurred, and turn this dissimilarity into probabilities of negative events happening to us.

- Self-centred thinking also contributes to optimism bias. For instance, we tend to underestimate a completion date of a project by focussing on things we do well and ignoring those we are not so good at.

Like it or not, 80 per cent of us experience optimism bias in our daily life, according to Tali Sharot, a well-known experimental psychologist from University College London (UCL).

So how do we avoid it? An article in The Scientist cited an experiment carried out by UCL involving magnetic manipulation of a part of the left brain, called the Inferior Frontal Gyrus (IFG). The findings of the research suggested that the secret to reducing optimism bias is not about being less optimistic, but rather about being better able to process and cope with negative news and its impact.

So, it appears that it is not always the best option to look blindly at the brighter side when assessing an uncertain future. Having fuller information and assessing the options objectively is known to be the best solution to counter unrealistic optimism.

Hopefully the fact that we are aware of our tendency towards potential biases will help us think carefully and prevent us falling victim to optimism bias in the future.

Thirst for Craft Beer Keeps London on Trend

"People these days are very open-minded to trying new things and they like to know more about what they're drinking."

Geek is not a word commonly associated with beer, and for that matter, neither are names such as Evil Twin, Hipster, Beaver Town and Weird Beard. However, the rise of the craft beer – typically a tasty, original alcoholic drink made by a small, independent brewer using traditional methods – in London is bringing these words to the forefront.

UK sales of locally-brewed artisan or craft beer rose 79 per cent in the 12 months to August 2013, generating sales of £225 million, according to research by food and drink consultant CGA Strategy. While still a small player in the overall drinks market - the sector accounts for 1.9 per cent of total beer volumes in the UK, sales increased 84 per cent for draught and 40 per cent for packaged products last year. In real terms, a not insignificant 74 million pints of craft beer are being sold to British consumers each year.

The revolution in beer in Britain has been gathering pace for several years now following an initial surge back in the 1970s initiated by the Campaign for Real Ale (CAMRA). The original focus on cask beer has more recently moved onto craft beers after in 2002, the then Chancellor Gordon Brown introduced progressive beer duty, giving tax breaks to smaller producers.

These quickly began to proliferate, with the number of breweries in the UK reaching a 70-year high of 1,147 last year, with 187 new openings in 2013 – an increase of 14 per cent on the prior year, according to CAMRA. In London alone, there are currently around 50 commercial brewers operating within the M25, most of whom have sprung up in the last few years.

"People these days are very open-minded to trying new things and they like to know more about what they're drinking, where it's from, how it's made and what spectrum of flavours to expect," said Mike Keough, operations manager at Artigiano, a specialist craft beer, wine and coffee bar overlooking St Pauls on the edge of the City.

Since the bar opened a year ago, Keough says demand for craft beer has increased significantly. In fact, he says Artigiano now only sells craft beers as the big beer names don't sell as well.

"What is really great is to see customers trying several different craft beers rather than just sticking to one they like," he said, adding that Pioneer from the Freedom Brewery in Staffordshire is the bar's best-selling beer.

The rise in demand for craft beer has also led to an increase in demand for so-called crowd funding. A relatively new phenomenon in the fund-raising world, which was once the domain of highly-skilled investors and specialist equity boutiques, crowd funding uses online platforms to connect would-be investors in the local community to new businesses or community schemes that are seeking funds.

In the case of the craft beer community, many independent breweries are turning to their fans to raise the cash they require to grow their business. At the end of last year, BrewDog, Scotland's largest independent brewery which has bars in Camden, Shoreditch and Shepherd's Bush, successfully raised £4.24 million in crowd funding, with James Watt, the firm's cofounder, saying: "The mental shackles that have tied down British SMEs to the staid and unimaginative traditional methods of raising funds have been untethered. We have ushered in a brave new world, and you can expect to see more businesses launching similar schemes in 2014."

Earlier this year, Edinburgh-based Beer 52, a specialist mail-order distributor of craft beers that calls itself a club and has more than 2,500 paying subscribers (for £24 a month they send you a mixed case of eight craft beers), successfully raised £100,000 in crowd funding to develop its business model.

And, in a separate development, Craft Beer London, a guide to London's craft beer movement, has recently announced it is raising money on crowd funding site Seedrs to invest in Blue Crow Media to help develop a Craft Beer London online guide and a series of new London apps, including one about cocktail and wine bars. Craft Beer London has already produced a craft beer app, which is available in the App Store, and is soon to publish a book.

So while the traditional names such as Tetley and IPA may still be being quaffed by the seasoned drinkers in more traditional parts of the country, city dwellers may need to get their mouths around new names if they are to keep up with the latest food and drink trend. They can even put their money where their mouths are and take advantage of the new investment opportunity which gave one willing contributor a life-time of free beer in return for his investment.

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Brickendon provide consultancy services to solve the challenges, both internal and external, faced by businesses operating in the financial markets.

Today's business and trading environment is ever gaining in complexity. Over the last few decades, we have seen that the ability of organisations to remain competitive in the overcrowded financial markets is critical. An increasingly challenging regulatory environment has also made it essential for market participants to have a clear understanding of changes in order to drive their own strategic vision.

At Brickendon, we undertake proactive research in order to be able to respond to industry developments in the financial markets as they happen. We constantly perform in-depth analysis and evaluate the operational implications in banking and trading organisations. We are committed to maintaining high-level research integrity in order to provide independent and first-class solutions to our clients.

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