ASIC

Australian Securities & Investments Commission

The Fourth Industrial Revolution: Impact on financial services and markets

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Introduction

It is great to be here at our 2017 ASIC Annual Forum.

I am very excited about the theme of our conference this year, which is ‘Future Focus’.

In this fast paced environment, I think it’s critical we keep our eyes on the transformative changes on the horizon.

I am looking forward to exploring with you, developments we anticipate in the future – and even those we might not anticipate.

To start off today, I would like to:

- give my thoughts on where we are now – and where we are heading – as we speed into a new future
- talk about some of the benefits and risks that can emerge from the fintech and regtech developments we are seeing and will continue to see, and
- touch on what our responses to these developments are, and should be, going forward.

Where are we heading?

There is no doubt that we are living in fascinating times.

Global politics

On the global stage, we are living in a period of unprecedented political and economic uncertainty.

This is being driven by the change in the US administration, the Brexit and elections in key continental European countries. The idea politics should be about the local – and not the regional or the global – is resonating through each of these changes and developments.

This is particularly the case with those who feel they've been left behind through a period of significant economic and social change. It is clear to me many people are frustrated by the present economic circumstances – and inequality – in much of the world, which is contributing to these political upheavals. It is important that we examine and reflect on how the markets can function for the benefit of all.

Post-GFC – through the work of the Financial Stability Board, IOSCO and other domestic and international organisations – a more stable and resilient global financial system is being built. But from where we sit, emphasising domestic and national interests over global interests may create a climate in which global markets become increasingly fragmented. This is not in anyone's interest.

More than ever, the benefits of global cooperation and inclusive economic growth need to be explained – and delivered.

Financial services industry

Turning to the financial services sector, you might agree that 2016 was an eventful year for the industry.

There has been an increased public, media and government focus on the sector, as well as progress on important law reforms.

Customer expectations have changed, and people are more empowered than ever. We now live in a world with technology and social media at our fingertips. Individuals have unprecedented access to information (both real and fiction) and, as a result, if businesses are not behaving in the right way, the crowd will let them know, if not the headlines. Of course, we have seen the conduct of financial institutions often adversely highlighted by the media.

Responding to these changing community expectations, the Government is increasingly calling for, and looking at ways to foster, business conduct in which customers can have trust and confidence.

Against this backdrop, in financial services, I want to talk about how fintech and regtech are changing our lives and our businesses, and what the risks might be. Then I will come back to the idea that maintaining trust and confidence is critical today and as we go forward in the future.

Technology

Artificial intelligence – or AI – is at an early stage, but it is developing faster than we once expected. We are seeing AI that is now leaping into the mainstream. We have for example, Apple Siri, Amazon Alexa, IBM Watson and Google Brain. We are on the cusp of machines that can understand the world and respond effectively.

We are now squarely in the Fourth Industrial Revolution where we have a blending of physical, digital and biological knowledge.

The combination of internet-connected networks and machine learning algorithms is setting the platform for forward leaps in the ability of machines to understand spoken, written and visual communications. With technological improvements in speech and image, AI is moving towards ever-increasing personalisation applied to, for example, education and medicine. Take for instance, the fascinating ability to now use holographic learning to teach doctors anatomy.

Last year at our Annual Forum, we talked a lot about the potential of distributed ledger technology – or blockchain. We are seeing interesting developments one year on in equities markets with ASX and debt markets with CBA initiatives in permissioned ledger. Even maybe in the future with our registries, where I understand a proof of concept is already being worked on in one jurisdiction. This year will be a critical year for distributed ledger technology in financial services, as we move from talking about this technology to implementing and testing its abilities to create new efficiencies in the system.

To this end, ASIC will shortly publish an information sheet for industry participants who are implementing and testing distributed ledger technology solutions. The information sheet provides a framework to help industry and ASIC to assess whether using the solution would meet the relevant technology and risk management requirements. This information sheet will be relevant for both existing licensees and start-ups. We think it will help to fast track our discussions with stakeholders and we will use the framework as a conversation starter as the technology continues to evolve.

Fintech and regtech

In financial services specifically, technology is enabling the development of new products and services that can meet consumer needs more efficiently, and more cheaply.

Fintech: Benefits and opportunities

Put simply, fintech has the potential to do three things:

- reduce the cost and improve the efficiency of product and service delivery across the financial sector
- empower customers who will be able to deal directly, more seamlessly, and flexibly with product and service providers, and
- empower businesses to deliver a better value proposition and customer experience to their customer base through improved data analytics, giving a better understanding of customer behaviour and customer needs.

Fintech also has potentially enormous macroeconomic benefits through enhancing financial inclusion and bridging the financing gap, particularly in emerging markets.

A recent McKinsey Global Institute report predicts widespread adoption of digital finance could increase the GDP of all emerging economies by 6%, or a total of $3.7 trillion by 2025.[1] This additional GDP could create up to 95 million new jobs across all sectors of the global economy.

Opportunities include making banking available for the first time through an alternative non-bank payment system using mobile phones. Kenya, with M-Pesa, is a great example of what is possible here. I anticipate we will explore this in the first panel session today. It has led to a 300% increase in the number of adult Kenyans who access financial services – with over 75% of Kenyans now having access to financial services.

We are starting to see the reinvention of the banking model, with talk of ‘ecosystems’ that are not just focused on financing. The potential of businesses such as Facebook, Amazon and WeChat in this area is immense.

Regtech: Benefits and opportunities

Regulatory changes and technological developments are changing fundamentally the nature – and also the culture – of financial markets, services and institutions. At the centre of these changes, we have the evolving use of regulatory technology or ‘regtech’.

While our vision remains the same, the way in which we are approaching regulation is transforming. The way we monitor and regulate is increasingly data-driven. Regtechoffers us the opportunity to better detect, understand and respond to misconduct. Through increasing access to data and more sophisticated analytic tools, we can be more proactive and pre-emptive in understanding and addressing the risks we see.

In addition, regtech offers huge benefits for industry, such as:

- empowering businesses to better train their staff and manage their compliance risks, and
- improving confidence in risk management in businesses where significant liability could arise from non-compliance.

[1] McKinsey Global Institute, *Digital finance for all: Powering inclusive growth in emerging economies* (PDF 4 MB), report, September 2016, p. 10.

Last month, we hosted a roundtable on regtech and a theme that emerged was that regtech can have implications for promoting a good culture in financial services firms as well. Business models such as Red Marker not only detect misconduct, but they also educate when they detect possible issues.

Efficiency gains from regtech means staff dedicated to compliance in firms could have an expanded education focus. These teams could focus on understanding and shaping firm culture. This means compliance staff can become coaches and educators, rather than policemen.

Risks

Yet these opportunities come with risks.

Greater customer and investor control and direct engagement without appropriate understanding of the risks of products and services raise the risk of investor harm.

There will be new channels though which fraud may be perpetrated both within and across borders.

The growing use of technology to capture, store and analyse data increases the risks of that data being misused, and the systems used to capture and store the data being subject to cyber attacks. Privacy is also an issue. There are also risks data will be stored, used and shared with others against the wishes of the consumers providing the data.

And as we see the potential of automated financial services, and AI playing a role, we need to look to the algorithms behind these services. These algorithms will need to be transparent so their decisions can be challenged, and not just be considered opaque 'black boxes'.

Responding to developments

Our challenge, as regulators, will be to create an environment that encourages fintech and regtech without compromising our core objectives of:

- promoting financial consumer and investor trust and confidence
- ensuring markets operate in a fair, efficient and transparent way, and
- mitigating systemic risks.

At ASIC, there are four things that underpin our philosophy towards regulating fintech and using regtech:

- the first is being flexible and adaptable to the speed and nature of change
- second, resisting the temptation to jump before we properly understand developments

- the third is ensuring as far as we can that our regulatory responses are technology neutral – we should not be creating new arbitrage opportunities
- the fourth is ensuring we have the skills and expertise to be an effective regulator in this space.

We have carried through this philosophy in five ways.

Innovation Hub

Firstly, our Innovation Hub.

We engage with fintech entrepreneurs through the Hub. This allows them to navigate the regulatory framework and understand our regulatory approach, and enables us to monitor market developments.

Regulatory sandbox

The second is our regulatory sandbox – essentially a 'lighter touch' regulatory environment.

This gives entrepreneurs the chance to test new kinds of financial services without a licence, while ensuring those who access their services still have access to fundamental protections under the law, such as dispute resolution and professional indemnity insurance.

Guidance

The third is developing and issuing guidance, which reflects our regulatory approach on innovative business models such as digital advice and marketplace lending.

Skills, systems and processes

The fourth is developing the skills, systems and processes that allow us to effectively monitor changes and to analyse the data we collect.

On skills, we are recruiting to build our specialist data analytic capabilities, as well as expanding our behavioural insights team.

We are also looking to the future and the potential for using AI, as well as creating data labs that will give us – and potentially regtech entrepreneurs – access to datasets, open-source tools and an environment to test new technologies.

On systems and processes, we are improving how we capture, share and use data by developing a data repository and using Microsoft Dynamic CRM. This allows us to use a variety of data sets, including third party data sets, and create a consolidated workflow system across the whole of ASIC.

Good quality, well-governed data is a key foundation for good regulatory decision-making. We have established a Chief Data Office and a Data Governance Council that will ensure appropriate governance of ASIC's data assets and the data we request and use from third parties.

Our use of analytics is being embedded into our surveillance, investigations and enforcement actions.

Surveillance

In markets, our Market Analysis and Intelligence system uses purpose-built First Derivative flexible algorithms and data analytics to identify suspicious trading.

We are now using Microsoft social media analytics to monitor sectoral hotspots as well as targeted areas of interest in financial services.

We are also trialling machine learning software to search the web to identify misleading marketing in a particular sub-sector (e.g. unlicensed accountants and SMSFs).

Investigation and enforcement

We are tailoring machine learning software for use in investigations, which allows visualisation pattern matching across our evidence database, using algorithms for both structured and unstructured data. It allows us to visually map relationships of persons and entities and create time chronologies.

E-discovery and Technology Assisted Review using machine learning is now recognised by the courts. There have been recent cases where Australian courts have endorsed the use of machine learning technology to identify the most relevant documents.

We are expanding our capabilities in this area, including machine learning from fuzzy logic, and piloting the machine learning functionality of Nuix to make the identification of relevant evidenciary materials more efficient.

Cross-border cooperation

The final component of our philosophy on fintech and regtech is cross-border cooperation

This is critical – we are sharing views, exchanging information, building fintech relationships with other regulators such as Singapore, Canada, United Kingdom and Kenya, and making referrals.

Conclusion

Obviously, businesses will drive many of the developments that will bring the benefits I have talked about. They will be the innovators, the strategists and the leaders of this Fourth Industrial Revolution – the digital revolution.

But I want to reiterate what I said earlier, which is that community expectations have changed. So too have the expectations of the government and the regulator, and even the black letter law. In line with this, we have set out in our Corporate Plan, released last year, our view of ‘what good looks like’ in the sectors we regulate.

As we traverse this futuristic world over the coming days, we should also pause to consider what the underlying foundation needs to be to support innovation and growth in the financial services sector. Our previous reliance on disclosure must be challenged. The future lies in mobile and digital – information needs to be transmitted in real time and be clear, concise and effective.

Technology offers our financial services industry and capital markets huge opportunities. We are entering a period where responsible leadership has never been more critical, especially in the leaders who drive the innovative strategies of the future. Our efforts must be focused on fostering both inclusion, and trust and confidence.

Our future success requires this foundation of trust, and that trust will not be given automatically – it must be genuinely earned.