FinTech Australia

SUBMISSION PAPER:

Questions on Notice Select Committee of the Financial Technology and Regulatory Hearing on 11 February

March 2021

Consumer Data Right Interoperability

The Chair of the Financial Technology And Regulatory Technology Select Committee asked: "What are the specific requirements we need to develop to ensure CDR is interoperable with other jurisdictions?"

There are three essential components in ensuring the Consumer Data Right ('**CDR**') is interoperable with other jurisdictions.

Firstly, we must adopt a mechanism for communicating standards or aligning standards between jurisdictions. The most effective method to align standards would be a multi-jurisdictional alignment body, likely aligned between Australia, Singapore and the UK. A multi-jurisdictional body already exists in the information security space, with the UK Open Banking Implementation Entity having transferred their baseline information security profile into the OpenID Foundation's Financial-grade API Working Group.

Secondly, we must have clear agreement on the critical elements of open banking to align with other jurisdictions, as well as have clarity on which elements require local differences to international approaches. Most significantly, we must adopt a common approach to consent taxonomy and collectively adopt a common open source, consent management protocol - both of which are inextricably linked to any cross-border data economy. A common language or standard that allows for interoperability between jurisdictions in respect of consents is fundamental in facilitating a functional and efficient cross border data economy. Moreover, a common approach to consent management and data free trade agreements is essential to have any potential for cross-jurisdictional CDR interoperability be realised. The OpenID Foundation's FAPI Working Group[1] has developed a standardised information security profile (Financial-grade API 1.0) and are now initiating the next generation of the profile (Financial-grade API 2.0) which incorporates an approach to consent management (Grant Management API). Simultaneously, the OpenID Foundation's eKYC & Identity Assurance Working Group[2] is

[1] https://openid.net/wg/fapi/
[2] https://openid.net/wg/ekyc-ida/

developing multi jurisdictional (currently GDPR, CCPA and AMLD V) identity assurance standards.

To illustrate the importance of consent taxonomy, we can consider a situation where a CDR-related agreement exists between two countries, but, the data they are exchanging differs between jurisdictions. If one country allows access to a customer's utility data, but another country does not, it means the captured 'consent' is useless. As a result, we must ensure consistent taxonomy with the data that is made available and can be shared between different jurisdictions.

Finally, briefly alluded to above, it is essential that we focus on establishing Data Free Trade Agreements. As an initial starting base, we can look to the Singapore-Australia Digital Economy Agreement. However, this agreement only relates to data, not the issues the CDR handles at-large, so future agreements should be more comprehensive. As previously stated in FinTech Australia's Submission to the Select Committee on the Second Financial Technology and Regulatory Technology Issues Paper, these agreements should focus on enabling cross-border trade of data in a way that honours data sovereignty. One such way this could be achieved is outlined in Data Republic's submission to the Department of Foreign Affairs and Trade in respect of Cross Border Data Exchange.[3] Sovereignty honouring data free trade can be achieved through a kind of data sharing called Algorithm-to-Data. This approach allows for data producing nations to transact with data processing nations on more even footing by retaining their respective data market leverage. The submission sets out the following basic principles:[4]

- Raw data is not transferred, or is only transferred temporally to a secure space (from which it cannot be extracted in its raw form) and held temporarily until processing is complete then deleted.
- Value is created out of data by applying algorithms to the data to generate an output.
- The output may be extracted and transferred freely.
- The custodian of the raw data set retains control over the raw data set and is able to realise repeat value from the raw data set without having to transfer control of the raw data set to the data processor.

[3] Data Republic, Australia-Singapore Digital Economy Agreement: Submission on Cross Border Data Exchange, DFAT, 8, https://www.dfat.gov.au/sites/default/files/data-republic-au-sg-dea-submission.pdf
[4] Data Republic, Australia-Singapore Digital Economy Agreement: Submission on Cross Border Data Exchange, DFAT, 10, https://www.dfat.gov.au/sites/default/files/data-republic-au-sg-dea-submission.pdf

This approach allows the data processors to generate value from a producer's dataset without retaining the raw data and continuing to generate value after a producer has ceased to enjoy a benefit.

An alternative approach is called Data Free Flow with Trust ("**DFFT**"). Launched by former President Abe of Japan, DFFT proposes a free flow of data using a shared framework of data and privacy principles. However, this approach has been rejected by data producing countries such as India, Indonesia and Egypt, as DFFT disproportionately favours data processing nations. This is due to the fact that as data is transferred from data producers to data processors, the latter is able to capture all of the data's value repeatedly without any requirement or obligation to transfer value back to the data producer.[5] The Algorithm-to-Data approach solves this problem.

Ultimately, to achieve successful interoperability in relation to the CDR, it will require significant engagement and partnership by the Government in regards to working with other jurisdictions.

Blockchain applications

The Chair of the Financial Technology And Regulatory Technology Select Committee asked: "What is your position on where we are on blockchain in this country?" [6]

In furtherance to our answer on 11 February, FinTech Australia puts forward the following additional response to the question that was asked by the Chair of the Committee Senator Bragg.

Why Blockchain technology?

[5] Data Republic, Australia-Singapore Digital Economy Agreement: Submission on Cross Border Data Exchange, DFAT, 9-10, https://www.dfat.gov.au/sites/default/files/data-republic-au-sg-dea-submission.pdf
[6] Evidence to Select Committee on Financial Technology and Regulatory Technology, Parliament of Australia, Virtual, 11 February 2021, 49 (Senator Bragg).

Blockchain has three primary use cases: **record keeping**, **transfer of value** and **automated logic**, increasing from the most basic application to the most complex.

To recap, blockchain technology can be defined as an open, distributed ledger that can record transactions between participants in a network efficiently (peer-to-peer) in a verifiable (time-stamped) and permanent way (immutable). At its core, blockchain applications enable business and operating rules to be programmed and self-execute when the conditions of these rules have been met e.g., for exchanging value (i.e., digital assets representing real world assets) and shared record-keeping (i.e., information supply chain) almost instantaneously.

A key benefit to governments, industries, and businesses is that everyone in the network agrees on what happened because all are working from the same record that are trusted. Importantly it is a digital way for businesses, industries, and governments to make and verify transactions, streamlining business processes, saving money, and reducing the potential for fraud or error almost instantaneously. Finally, the blockchain is not owned by any one entity but everyone has a shared interest in its governance.

Where are we on blockchain in Australia?

Origins

The Australian blockchain industry began self-organising with the creation of the former Australian Digital Currency and Commerce Association (ADCCA, now known as Blockchain Australia) in April 2014. ADCCA led the way by advocating for the self-regulatory framework and code of conduct to be adopted by Australian cryptocurrency exchanges which helped AUSTRAC form legislation to enable such exchanges to operate in Australia. This work also informed the Australian Senate Inquiry into cryptocurrency in September 2014. At this time, Australia was leading the world in understanding Bitcoin and the implications from the perspective of taxation, AML / KYC and investor protection issues.

Also during this time, the Australian blockchain and cryptocurrency community founded Meetups in nearly every major capital city in Australia - most notably the Sydney Bitcoin Meetup and the Brisbane Bitcoin Meetup around 2015 - which are still operating today along with 100s of different variations of blockchain, cryptocurrency, and digital assets with thousands of members attending meetups each month. Later in August 2017, the Australian Women in

Blockchain meetups emerged to bring together both women and men to understand blockchain and its application in real world industries.

Before Australia held its first APAC Blockchain Conference in early March 2017, in early November 2016, the Inaugural Brisbane Blockchain Symposium was held at Fishburners with 150 people in attendance. Another first for Australia and the world, was the formation of the Parliamentary Friends of Blockchain in August 2017.

Austrade, working with ADCCA, created opportunities for Australian blockchain and cryptocurrency startups to undertake trade missions to New York (Consensus) and Shanghai (Wanxiang Blockchain Conference) to raise the profile of their work and connect with potential customers and investors in international markets (2017, 2018 and 2019).

With the popularity of the Initial Coin Offerings (ICOs) in 2017, some of Australia's leading blockchain companies raised successful ICOs, namely Power Ledger, Canya, Havven, and Horizon State.

We began to see in blockchain and cryptocurrency online press, articles of Australian banks and aligned industries experimenting with blockchain technologies, most notably the Commonwealth Bank transferring bonds (Queensland Treasury Corporation) in January 2017.

With the establishment of the DTA Marketplace, for the first time the category "emerging technologies" was included in 2017 so Australian startups who were building solutions with blockchain technology could successfully register as a "Seller". In late 2017, IP Australia was one of the first Australian government departments which used the DTA Marketplace to engage with the Australian blockchain community to secure the services of a suitably qualified seller to help it explore and discover the potential of blockchain technology for the digitisation of IP Rights. Australian startup Civic Ledger was the successful seller and its work would go on to be presented at the World Intellectual Property Organisation (WIPO) in Geneva in April 2019.

Prior to this milestone, the Australian Government's Department of Industry under its Business Research and Innovation Initiative (BRII) funding program went to market looking for SMEs and Startups to help solve five (5) problems. Three (3) of the five (5) problems found that blockchain technology could be advantageous over legacy ICT technologies including:

- tracking the effect and value of information products;

- improve transparency and reliability of water market information; and
- sharing information nationally to ensure child safety.

Data61 led the way in researching and publishing key materials on blockchain technology and our universities began forming centres with RMIT Blockchain Innovation Hub being one of the first to emerge. Most significantly, early 2017 saw the appointment of Standards Australia as the world secretariat for the ISO / TC307 standards for blockchain and smart contract technology.

Venture capital firms in Australia started backing homegrown blockchain and cryptocurrency startups including Sapien Ventures, Reinventure, Beach Head, Apollo Capital to name only a few. ASX announced that it would replace its CHESS with Distributed Ledger Technology.

In March 2019, the South Australian Government facilitated the first Blockchain Innovation Challenge and supported the ADC Blockchain Conference. In late 2019, South Australian Government's Office of the Registrar-General Expression of Interest asking the market whether Distributed Ledger Technology would be a feasible technology to solve the problem of data interoperability between Electronic Lodgement Network Operators (ELNOs).

This recap on the origins of the Australian blockchain and cryptocurrency ecosystem is not meant to be exhaustive. Rather, its aim is to show that since early 2014, Australia has held itself as a global leader in driving the responsible adoption of blockchain and cryptocurrencies through a multitude of initiatives. All this hard work - which was overwhelmingly led by the Australian blockchain and cryptocurrency ecosystem on a volunteer basis without government-driven policy accelerating the adoption of blockchain technology - would culminate with the publication of the National Blockchain Roadmap in February 2020.

Blockchain in Australia Today

In mid February 2020, the Hon Karen Andrews, Minister for Industry, Science, Energy and Resources (**the Department**), released the government's National Blockchain Roadmap which highlights opportunities for Australian businesses to leverage blockchain technology for economic growth including signposts future development and opportunities for this technology.

Since its release, the Department has undertaken a number of initiatives including:

- Appointing Ms Chloe White to lead the delivery of the National Blockchain Roadmap,
- Establishment of the National Blockchain Roadmap Steering Committee,
- Establishment of four (4) Working Groups - Cybersecurity, Credentials, Supply Chains, and Regulatory Technology (noting the FinTech Australia sits on the RegTech Working Group) - each tasked with the preparation and delivery of "Discovery Papers" for the Department and other aligned Departments e.g., Prime Minister, Treasury.
- Budget commitment for two initiatives (pending grant programs):
    - $6M to explore blockchain applications within supply chains and the mining sector, and
    - $6.9M to support SMEs adoption of blockchain technology.
- Establishment of the Australian Public Service (**APS**) Blockchain Network, and
- Continued support for the Parliamentary Friends of Blockchain.

What has been interesting is the work underway in Australia's University sector with many establishing blockchain centres or equivalent and some securing millions of taxpayer funds through grants to advance blockchain technology, cryptocurrency, and digital assets (from the perspective of information technology, strategy and leadership, socio-economics, finance, law, environment) through research:

- RMIT Blockchain Innovation Hub
- Monash University Blockchain Centre
- Swinburne University Blockchain Innovation Lab
- Griffith University
- Queensland University of Technology
- University of Queensland
- University of Sydney
- Australian National University

A quick glance at the Cooperative Research Centres (**CRCs**) which are funded by the Department, many active CRCs are also exploring blockchain applications and co-funding projects with the blockchain industry to solve problems within specific verticals:

- CRC for Developing Northern Australia
- Food Agility CRC
- Future Foods CRC
- iMove CRC

- Building 4.0 CRC
- CRC for Cybersecurity

The Department is currently assessing the recent CRC round which includes the Digital Finance CRC (DFCRC). According to its website, the DFCRC brings together a unique group of stakeholders in fintech, industry, research, and regulation to develop and commercially exploit the huge opportunities arising from the next transformation of the financial markets – the universal digitisation of all assets so they can be traded and exchanged directly and in real-time between any individual or organisation[7].

Other initiatives include (not meant to be exhaustive)

- IP Australia's Smart Trade Mark and its partnership with Australian Rugby to protect the authenticity of its official merchandise
- Blockchain Australia's Blockchain "Blockies" Awards
- FinTech Australia's "Finnies" Awards recognising "Excellence in Blockchain"
- Inaugural Australian Blockchain Week April 18 - 23 2021
- ASX continues to work with DLT - Digital Asset Management Language (DAML), project:DABL, and VMWare
- The establishment of FIBREE: Foundation for International Blockchain and Real Estate Expertise in 2018
- The establishment of the Digital Law Association in 2020
- ASIC's ask the DTA market for suitable seller to help with mapping the Australian and Global crypto marketplace as relevant to its regulatory remit
- A Local Government association intending to incorporate blockchain technology to help with probity and compliance in local government procurement
- ACCC Inquiry into Murray-Darling basin water markets Interim Report explored the role of blockchain / digital technologies to solve the problem of transparency and trust
- Department of Defence exploring blockchain to help with provenance in it major supply chains
- Meat and Livestock Australia, Australian Wool Association, and Tea Tree Association are some of the many industry peak bodies exploring blockchain technology to solve a number of problems relating to provenance, credentials, supply chains, and finance.

[7] Digital Finance CRC - Home (dfcrc.com.au)

Returning to the question “where are we on blockchain in this country?”, it is clear that businesses, industries, research and education sectors and peak bodies (i.e. Blockchain Australia and FinTech Australia) have recognised that blockchain technology represents an opportunity to secure Australia’s competitiveness in a global economy and are investing time, resources and funding (largely taxpayer funding) in programs, projects, research and ventures.

Despite all these initiatives, as a country, we are at an important juncture at which several challenges are now emerging in relation to securing a blockchain future:

- Initiatives suffer from duplication of effort, resources, time and funding;
- Blockchain developers do not grow on trees;
- Blockchain technology should not be the headliner; and
- Moving beyond blockchain enabled projects (first generation) to blockchain applications.

Vertical v Horizontal

The key challenge is the haphazard nature of these initiatives - there is no “clearing house” or alike whereby new knowledge can be shared across verticals or even within the same verticals to inform standards, governance frameworks, or best practices. As a result, duplication of funding (largely taxpayers money through project and research related grants), effort, resources, and even solving the same problems i.e. red meat supply chains and peer-to-peer renewable energy, are now evident.

Home Grown Blockchain Talent

There is a general opinion that Australia has an abundant talent pool of blockchain developers who are skilled in all the different variations of blockchains - Ethereum, Bitcoin, EOS, R3, Quorum, Cardarno, IOTA, Neo etc - smart contract languages - solidity, DAML etc - and managing the infrastructure - public, private, hybrid, consortium etc. This is simply not the reality. Universities are exposing blockchain technology / digital technologies et al to PhD students and not through first degree foundational year studies. The Australian blockchain startups and venture studios are taking on the responsibility and costs to train on the job blockchain developers to expose them to real world solutions to build up knowledge and experience.

Human-Led Technology

Digital literacy of next generation technologies like blockchain and smart contracts by C-Suites, Executive Leaders and / or Board Members within government and aligned regulated organisations is problematic as there remains confusion that blockchain is that “cryptocurrency thing” or that other technologies are better suited and as such it is dismissed as having no relevance to core business. Further, for some time blockchain technology was categorised as a “hammer looking for a nail” or “a solution looking for a problem”.

It is true that blockchain technology is to be applied in specific instances. Hence why when considering blockchain technology as a possible solution, it is critical that leaders and their teams start with what is the problem to be solved and determining whether blockchain technology delivers greater benefits relative to existing market solutions to all participants in the network.

Moving on from Blockchain-Enabled Approach

Blockchain technology is a team sport - it requires all participants within the ecosystem to collaborate to maximise the benefit from improved business processes and reduced costs. The first generation of blockchain-enabled solutions have helped ecosystem participants get over the difficult challenges of working together. Whilst they are delivering business value, they have not disrupted, transformed or up-ended existing structures.

Presently, one of the Australian government’s objectives and key focus points is to reduce the regulatory burden placed upon businesses that is created by the need to replay data numerous times to demonstrate compliance. Blockchain technology serves a horizontal role in this scenario by proving or verifying the state of a transaction, and therefore demonstrating compliance for a business and directly reducing regulatory burden.

Supply chains are an example of a use-case of blockchain. However, supply chains extend beyond the physical movement of goods. Blockchain is also key to the movement of information attached to these transactions, as well as information movement when citizens or businesses move across different silos.

Blockchain is also important when it comes to the consensus of data. For example, for the use of data in medical records and registries. The pandemic has created a recent real-life application of the use of blockchain. Given the country has recently launched its vaccine roll-out,

it is expected that Australians will be updating their medical records. As Australians are required to confirm their immunity status, following their vaccination, it is important for the Australian Immunity Registry to maintain secure data that is both interoperable with other jurisdictions and not overly onerous in regard to requirements for personal information.

Blockchain is applicable to almost all aspects of fintech and regtech as it serves a complementary function that increases the power of many aspects of our industries. For example, whether it be the Consumer Data Right or neobanking, both inherently rely on data sharing. Seamless and secure data sharing can only be achieved through blockchain technology. Ultimately, blockchain ensures that Australians will not be forced to continue to replay their data across multiple jurisdictions and verticals.

FinTech Australia recommends that the Australian government encourages widespread use of the technology throughout the industry. As we have stated in other submissions across all sectors of fintech it is important that the government leads in using and procuring these new technologies. Blockchain should not be pushed into businesses for no reason as an additional tack-on to their operations, but rather, blockchain should be applied with an ecosystem approach whilst having regard to how SMEs operate their verticals within those ecosystems. Notably, the industry has made significant progress with using blockchain. Hutly successfully raised $6 million and has solved important problems for residential leasing by utilising blockchain technology to help residents get access to properties faster. Similarly, Bricklet also harnesses blockchain to digitise the property market so Australians have greater access to the market. On the other hand, universities have also made great strides in research and development with blockchain. The government's recent Federal Budget allocation of $6.9 million to support industry-led pilots to demonstrate the application of blockchain technology to reduce regulatory compliance costs and encourage broader take-up of blockchain is only a start. Going forward, a coordinated approach, rather than a siloed approach, is required to ensure industry is able to harness the great work completed produced by our universities.

Blockchain is an extremely diverse product with many uses and represents a highly valuable opportunity that must be promoted directly by the government to achieve its full potential.