A cautionary tale of blockchain standards

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Australia is leading the way in the development of blockchain (or distributed ledger technology) standards. Recently, Standards Australia released its Roadmap report for Blockchain standards, marking the commencement of the development of international standards along with other leading economies such as Germany, UK, Japan and the US.

The establishment of the Roadmap involved workshops and an industry survey to identify key stakeholder issues and develop a list of priorities for the technical committee ISO/TC 307.

Blockchain technologies are used for more than just to create digital currencies (Bitcoin) or transform financial markets (FinTech). It is predicted that blockchain technologies will “catalyse exceptional levels of innovation”.

The Roadmap report declares that blockchain will impact a range of government services or ‘use cases’ – health records, land and vehicle registrations, welfare distributions, and public transport scheduling. At the same time, blockchain is predicted to “fundamentally reorder the mechanics of financial and other transactions” according to another report.

The actual technology behind blockchain and distributed ledgers, and of its benefits and limitations, have been frequently reported on.

The long road ahead

In September 2016, the International Organisation for Standardization (ISO) announced that Australia will manage the development process for ISO/TC 307. Australia will soon host the inaugural meeting to be held in April this year. In Standards Australia’s survey, international standards are viewed as only one solution for the new regulatory framework; other options included industry guidelines, regulations, and even laws. Among the blockchain issues raised by respondents, creating an agreed upon terminology for expressions such as ‘smart
contracts’ pose one of the greatest challenges. Other challenges identified include privacy, security and interoperability issues.

In the coming years, ISO/TC 307 will shape the future of international blockchain standards.

**Lifting the veil**

Standards Australia serves as the peak non-government body responsible for the development of, or the adoption of international standards into, Australian standards. It does so as an independent entity, not directly associated with the Australian government. Rather, there is a Memorandum of Understanding (MOU) between Standards Australia and the Commonwealth Government, which has been in place since 1988. The main function of Standards Australia is, in its own words, to meet “… national needs for contemporary, internationally aligned standards and related services that enhance Australia’s economic efficiency and international competitiveness”. Despite the increased attention of standards, there are very few studies that have addressed the generic role that standards play in promoting innovation, and there’s no related research to date in Australia.

**Standards matter**

Standards are developed for a number of purposes, including achieving minimum objectives of safety, quality or performance for a product or service (‘product standards’). Standards can also apply to various processes concerning the work environment (‘quality standards’), where they specify the type of administrative processes that are supposed to lead to high quality or regulatory compliance. Standards are, therefore, widely used across a range of industries to promote and harmonise the use of certain technologies and products across the economy.

The economic importance of standards and the practice of standardisation have significantly increased during the past few decades. With the advent of the ‘digital economy’, this assessment has gained widespread acceptance. As stated in a major study commissioned by the European Commission, standards are:

“… now seen as one of the main alignment mechanisms which actors use to negotiate and coordinate their use of technology and the direction of technological change”.
One of the most important purposes of a standard is to establish a common language. This in turn aims to foster compatibility and compliance. Notwithstanding this, the development process is not well understood.

**Distilling knowledge**

The process of developing a standard; engaging technical committee members, preparing draft standards, and coming to a consensus is effectively a process of distilling knowledge. Even though the process of standardisation brings together interested parties, their interactions are essentially based on scientific or technical knowledge. The Roadmap report even specifies that ISO/TC 307 will provide technical guidance only. This aspect of standards development is seen as fundamental to its perceived authority.

Despite the accrued benefits, there are a number of concerns expressed about the practice of standardisation. Standards are the outcome of a voluntary, consensus-based process, which has been described as representing the ‘smallest denominator’. Partly because these are long-standing practices, the consensus principle has been allowed to continue unchallenged.

Although the practice of standardisation is justifiably receiving greater attention from policy makers and academics; scholars are essentially asking three questions: under what circumstances should governments consider intervening in market processes for selecting standards (if at all); how well do market and non-market mechanisms perform in comparison; and what trade-offs do policy makers encounter when formulating any legal restrictions. Any proposed solutions to these questions may ameliorate the development process, but they may carry with them their own set of challenges in the future.