Old Policy, New Tech:
Reconciling Private Blockchain Systems with International Privacy Frameworks

By Remy Hellstern and Victoria Lemieux

Abstract

The world is organized in a centralized manner which forms the basis of our legal and regulatory systems. While centralized systems require a single data controller, novel decentralized systems distribute power equally among users promising to offer a more democratized approach to data management. With the emergence of new decentralized technologies, like blockchain, legacy centralized systems are viewed as increasingly problematic for users due to lack of transparency regarding the handling of data and limited autonomy over individuals' personal information. Overwhelmed by click-through contracts and seemingly endless terms and conditions, individual users deserve to have access to their personal information and data which companies collect for them and from them. Currently, personal information is seen as an asset that can be bought and sold as opposed to the right of its owner to possess and share. In 2008, Satoshi Nakamoto produced the Bitcoin whitepaper which ushered in an era of change for these traditional centralized systems by outlining a peer-to-peer system that no longer required a third-party intermediary to establish trust. This innovation created a gap in regulation, premised upon legacy centralized architectures, as firms began developing decentralized solutions faster than regulators could establish appropriate new legal guidelines.

Distributed ledger and blockchain-based technologies are advantageous to firms who need to store personally identifiable data, such as employee or health information, in the face of rising data breaches. The regulatory environment for global privacy standards is ever evolving and often lacks the speed and nuance needed to incorporate all forms of new technologies, such as decentralized systems. Further, companies are unaware of the specific requirements needed to comply with regulations, especially when there are a variety of policies across levels of government and jurisdictions. This also makes it difficult for firms to design decentralized solutions to address problems created by traditional centralized systems, for example the bundling and selling of personal data in decentralized marketplaces.

This paper will explore the expert critique and consensus around data privacy regulation, with specific attention to the European Union's *General Data Protection Regulation (GDPR)* and Canada's *Personal Information Protection and Electronic Documents Act (PIPEDA).* It will work to understand how blockchain-based firms navigate these regulations in relation to the storage of personally identifiable information by looking at relevant policy decisions, legal cases, and commentary from regulatory bodies and commissions. This paper will contribute to the larger academic ecosystem by examining the current global state of data privacy policies, easing the communication gap between the public and private sectors, and providing policy recommendations for future work in this space. The hope is that, with increased communication and collaboration between innovators of decentralized systems and governing bodies, the future of regulation- and standards-setting will foster innovation that not only creates new value but protects the rights of individuals and their data privacy.