Kraus, Daniel/Obrist, Thierry/Hari, Olivier, Blockchains, Smart Contracts, Decentralised Autonomous Organisation and the Law

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Book Review

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1 The book addresses some of the recent buzz words centered around the Distributed Ledger Technology (DLT), also known as "Blockchain". The contributions mainly refer to one of the business areas where DLT has become the Messiah, namely the financial industry, as DLT has the potential to carve out the traditional middleman in banking transactions. Other relevant issues are treated as well, such as conflict of law (Florence Guillaume), intellectual property law (Daniel Kraus and Charlotte Boulay), data protection (Adrien Alberini und Vincent Pfammater), and even tax treatment of cryptocurrencies and criminal law aspects (Nadja Capus and Maelle Le Boudec).

2 The first chapter outlines the foundations of Blockchain, including perspectives and challenges (Vincent Mignon), giving a thorough overview of the problems at stake. The next chapter then deals with the necessary technical bases of DLT (Pascal Witzig and Victoryia Salomon) and what is essential for understanding all problems of the DLT. However, the chapter unfortunately does not go into fine detail, which is probably due to the fact that all of the contributors are lawyers and the book does not feature any authors specializing in informatics.

3 The next chapter is dedicated to private international law, which is essential for decentralised DLT as it could be used globally (Florence Guillaume). Guillaume rightfully points out that there is no unique scheme applicable to smart contracts; thus, under private international law the usual criteria apply, such as location of transaction etc. However, for DLT it is hard to assess a location of the transaction, as for the right *in rem* the DLT reflects everywhere on any node the transaction. The author also discusses different approaches to cope with the immaterial "location" of the transaction, but infers – rightfully – that only the *lex fori* can apply at the end (79) if no choice of law was concluded.

4 Another chapter deals with issues of standardization, in particular with ISO TC 307 – a topic that is quite important yet frequently ignored by lawyers. The author (Panagiotis Delamatis) describes in detail the expected gains from standardization and its impact on the development of DLT. However, the contribution fails to highlight the legal consequences of more standardization.

5 "Smart contracts" are also one of the buzz words frequently used in legal articles; however, it is quite misleading as smart contracts simply encode an existing contract and render it automatically feasible. Hence, Blaise Carron and Valentin Barron address a multitude of potential problems arising out the use of smart contracts, be it the translation of legal interpretation into code or the filling of gaps in the smart contract. The authors conclude that contract law and legal code will potentially be replaced by codes of computers; somehow, that still seems to be an overstatement as even complex

software relies on human will. Unfortunately, the authors do not address the issue of unfair contract terms, which is quite important in context of the EU; however, this may not be the case in Switzerland.

6 The issues surrounding financial services are tackled in the chapter on Swiss financial regulation (Biba Homsy). This chapter gives valuable insights into the strategy of the Swiss financial authorities which try to foster DLT technology rather than prevent it. Moreover, the issue of anti-money-laundering is examined but without consideration of the EU regulations. However, one of the unclear issues regarding who can be regulated in the case of a totally decentralized DLT remains unanswered.

7 Whilst this review does not deal with all chapters, the chapters on intellectual property law (Daniel Kraus and Charlotte Boulay) and data protection (Adrien Alberini und Vincent Pfammater) are worth mentioning. Concerning intellectual property law, the authors rightfully emphasize the difficulties in assessing the originality of a code – which, however, is not specific for blockchains. Once again, the issue of decentralized blockchain is mentioned in reference to database protection, but the reader is left alone with a "problem" (255). The authors also pay attention to the upcoming tendency of filing patent claims for DLT as well as trademarks. Concerning the market for intellectual properties, the authors mainly see the advantage of disintermediation so that valorization and distribution of money can be handled far more easily. One interesting issue is, however, not being treated, namely if intellectual property rights and the digital content can be transferred in one transaction on the blockchain; traceability of transactions does not mean that the digital contents are deleted (principle of exhaustion).

8 Concerning data protection, the authors deal mainly with the GDPR (unlike other chapters in the book). In contrast to the belief of many non-lawyers, the authors rightfully point out that whilst the keys used in a blockchain are pseudonymized they are still personal data and thus the GDPR applies. Also, the important issue of who is a data controller and a data processor is dealt with; the authors take a differentiated approach which, however, also reveals the tricky issues in practice (286 ss.). In contrast, the right of erasure is given short shrift; here, the authors refer to future solutions in IT-technology that will make information unreadable. What happens in the meantime, is left open (294 s.).

9 The book provides valuable insights into different legal areas where DLT can play a major role and thus will become an appreciated resource for further research. However, there are some points of critique that should be highlighted. First, the title of the book does not reflect the fact that (apart from data protection) most of the legal issues are dealt with from a Swiss perspective and European-wide discussions are only considered at some points. Furthermore, and again referring to the title of the book, a reader would expect a chapter on Decentralized Autonomous Organizations (DAO); however only a few pages deal with DAO, and not even with the main legal issues as how to treat such entities under corporate law (which is totally absent). Moreover, more or less every chapter describes the key features of DLT – this would have been unnecessary if the editors would have asked a computer scientist to contribute a technologically driven chapter. Finally, liability issues are conspicuously completely ignored by the authors.

10 In sum, a very useful book in terms of research; however, there are some flaws.