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## **Editorial: Economic digitisation and management practice**

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## **1 Introduction**

Suggesting that the past two years have been nothing short of testing would be an understatement. However, whilst there have been numerous trials brought on by the COVID-19 pandemic, spliced within these difficult times there have been substantial opportunity – especially within the academic arena given the exponential changes in behaviour at all levels of our economy. At the risk of deviating along numerous lines of discussion and conceptual frameworks, I will take this opportunity to highlight the focus of this editorial – the rise of the digitisation and decentralisation of finance and the, as yet, many unknowns of this phenomena especially on management practice.

Of many things that COVID-19 has impacted, it has greatly exacerbated the digitisation of our everyday lives. Anecdotally, reports indicate a decade's worth of development truncated into two years of existence (LaBerge et al., 2020). From the constant virtual meetings and stark developments in online shopping to the growth of cryptocurrencies and pop-culture memes as a digital asset, there is no denying that how we perceive and engage our economy has changed (UNCTAD, 2021b, 2021a). And whilst I am not deviating from the academic and professional literature in suggesting that there is divergence in direction of development over the COVID-19 period, what is of interest is the unprecedented speed of development and the degree of cognitive dissonance this has brought on for economic actors (UNCTAD, 2021a; Fu and Mishra, 2020). In other words, the development of financial digitisations and its associated technologies have been immense over the past ten years (Adrian and Mancini-Griffoli,

2019; Boot et al., 2020); COVID-19 has only accelerated this process exponentially. The fact that epidemiological jargon – F0, F1 cases – and discussions of initial coin offerings are now the norm as opposed to the exception illustrates just the state of flux that our existence is undergoing. On the one hand, there is substantial excitement in terms of innovation, the creation of digital solutions, and the promises that they bring. On the other hand, there is also opportunity in scrutiny, especially in relation to the management and governance of this digital revolution.

Conceptually where we begin poses an amazingly interesting question as there are developments across the micro, meso and macro spheres of finance and economics, and beyond. For the sole purpose of structure, and without any order of importance, we focus on innovations in blockchain solutions, the governance of digitisation, and sustainable digital development. These focuses are not exhaustive but represent substantial avenues of research opportunity, especially within the context of the *International Journal of Management Practice*.

## 2 Innovations in blockchain solutions

Whilst blockchain technology is not a new concept (Clarke and Tooker, 2018), it certainly is receiving its moment in the spotlight – whether it wanes or persists is, as yet, an unknown. Partly driven by the exponential surge in the prices of crypto assets (Momtaz, 2018; Lin, 2021), partly driven by robust proponents who believe it to be a paradigm-shifting approach to the trade of information (Clarke and Tooker, 2018; Hendrikse et al., 2018), and partly driven by the theatre of its rise from dark-web transactions, mysterious creator, and scandalisation of digital security (Campbell-Verduyn and Hütten, 2019; Foley et al., 2019), the growth of blockchain technology and its numerous ‘fuels’ in the form of cryptocurrencies, and tokens has been amazing to witness. At this point, it is important to delineate between crypto-assets such as crypto-currencies and non-fungible tokens, and the underlying technology, i.e., the blockchain. I will not rehash (pun intended) the underlying foundations of how a blockchain works but rather will proceed to highlight the developments in the literature and what could be seen as opportunities to contribute to this burgeoning area of study.

Along the crypto-assets front, we observe substantial growth in performance-based evaluations. These studies, predominately focusing on the crypto-currency market, bifurcate along several lines and present interesting early evidence of the diversification benefits of the inclusion of crypto-assets within a portfolio (Liu, 2019; Platanakis et al., 2018), the valuation and success of initial coin offerings (Benedetti and Kostovetsky, 2021; Adhami et al., 2018), and deterministic studies of the predictors of price evolution (Sun et al., 2020; Anghel, 2021). Moreover, whilst by construction, blockchain and hence crypto-asset data is ‘available’ for everyone, the magnitude of data contained within the respective digital ledgers limits, to a degree, accessibility. This obstacle has been greatly diminished with the development of numerous application programming interfaces (APIs) allowing for the curation and organisation of blockchain-based information and we are seeing substantial growth in ‘free to play’ sites providing such datasets, for example, Coinmetrics and IntoTheBlock. Here, we see substantial opportunity in terms crypto-asset-based research, especially with the depth and breadth of these API generated datasets. Summarily, future research can not only make the existing crypto-asset pricing models more complete but new studies can further disaggregate the elements within the

pricing models. For instance, from a demand-side, there is a paucity of empirical work examining the respective transaction costs for blockchain users (Easley et al., 2019). From a supply-side, studies focused on the mining costs associated to the verification process of blockchain would shed substantial light on the economics of mining. Invariably, this would be dependent on the type of blockchain and the adopted verification mechanism, but would allow us to better understand the socio-economic dynamics of the economic agents (Di Maggio and Yao, 2020).

This will have implications beyond that of just wholesale finance and banking, but also into the management of non-financial institutions when it comes to understanding the perceived minimisations of economic frictions of borrowing and lending in using a blockchain (Frost et al., 2019; Feyen et al., 2021). Given that financial markets are premised on the trade of information, arguments are that blockchain technology has the potential to greatly reduce the economic frictions especially in the form of informational asymmetries and hence transaction costs (Lewis et al., 2017a). We are beginning to observe early conceptual studies addressing such use cases within wholesale and retail financing ranging from international remittances to project funding and social lending (Hendrikse et al., 2018; Schär, 2021). These use-case conceptualisations extend beyond wholesale financing into arguments about scalability and there has been a growing body of work reviewing blockchain solutions in fields such as supply chain, and humanitarian aid (Dubey et al., 2020; Dolgui et al., 2020). The inherent decentralised nature of the blockchain lends itself well to supply chain management and does represent a breakthrough moment for the scalability arguments against blockchain.

The opportunities for incremental contributions to both academic understanding and managerial application are substantial in terms of blockchain use-cases. One area garnering significant interest is on-off chain applications which exist as a quasi-centralised/decentralised solution to the scalability argument (Singh et al., 2020; Reijers et al., 2018). One of the key deficiencies with '1st generation' blockchain technology is the ability to quickly process/verify transactions thus hindering its ability to compete with traditional centralised financial solutions such as a Visa or PayPal within the payments ecosystem. On-off chain mechanisms could address this limitation by implementing a centralised Visa/PayPal-type application on the off-chain (not recorded) end with periodic on-chain (recorded) uploads. The advances made within this area of blockchain can have immense impact not only for banking, finance, or any sector that trades off information, but also for non-profit use-cases such as humanitarian aid where the development of marginal efficiencies can have large implications on end-users – imagine the use of on-off blockchain solutions within a refugee camp to manage aid distribution.

### **3 The governance of digitisation**

There is no escaping the interface between any form of innovation and the requirement to adequately manage the direction of such progress. Using examples from finance and economics, arguments for adequate governance and regulation of innovative can be found within any examination of the path-dependencies instigating a financial crisis within developed financial markets (Crotty, 2009). Here, we can draw parallels between the speed and extent of financial innovation, which also leverages the developments in digital

knowledge, and that of what is currently happening with the digitisation of our lives. Along these lines, the rapid growth of fintech, the digitisation of our financial markets, and the invariable overlap into our daily interactions with such technology requires better understanding, especially with the protection of end-users (Bousfield, 2019; Bernards and Campbell-Verduyn, 2019).

We can, potentially, cleave the opportunities for incremental contributions along two paths:

- 1 the governance of digital solutions
- 2 the use of digital solutions for governance.

Firstly, with the governance of digital solutions, there has been a tremendous amount of growth in the literature in trying to establish a theory of decentralised (blockchain) governance (Baker, 2018; Campbell-Verduyn and Hütten, 2019). What is thought-provoking is the fundamental rethink of the theoretical framework that dominates much of the governance and regulation literature, i.e., the use of resource-based and transaction costs theorisations (Babich and Hilary, 2019). Of interest is the burgeoning use of transaction cost theory (TCT) as a conceptual lens for examining the decentralised governance of blockchains, however, empirical studies are still scarce (Catalini and Gans, 2019; Schmidt and Wagner, 2019). Some areas to note here include the lack of clarity of the role of central economic nodes within the blockchain and the role that they play within decentralised governance. Also, studies further disentangling the role of miners as central governance actors and the related ‘verification costs’ can provide substantial insight for consideration of governance costs. Moreover, it is possible to extend this examination of verification to the actual mechanisms – whether proof of work or stake, and permissioned or permission-less – could further our understanding of the governance structure. This invariably leads to our second area of focus which is the use of digital solutions for governance.

The digitisation of our markets has, to an extent, created a paradox within the governance landscape, in that the development of digital solutions has helped improve, and at the same time, deteriorate the attainment of certain governance virtues. For example, the advances of know-your-customer (KYC) or anti-money laundering (AML) solutions have helped in combating the illicit use of our financial systems (Schär, 2021). On the other hand, the decentralised ledgers and the pseudonymity of blockchain solutions is seen to propagate opacity (Campbell-Verduyn and Hütten, 2019). There is also no denying the drama that follows the development of blockchain technology – numerous hacks; the relationship between forks and immutability – has created confusion as to whether the construction of decentralised governance via a blockchain results in greater or less transparency. Invariably, opportunity too, is present here as we do not entirely know how such digital solutions can help with our governance structures. One pertinent development in the world of digital currency is the creation of central bank digital currency (CBDC), which could allow some monetary authority involvement as a governance pillar (Auer et al., 2021; Khan and Malaika, 2021; Ferrari et al., 2020). But even here, we observe the governance paradox of traditional centralised against decentralised models. Moreover, is CBDC truly innovative or is it merely an extension of our existing definitions of money? Maybe we need an assessment of whether the level of distrust of centralised governance of our financial systems results in the embrace of decentralised modes?

#### **4 Sustainable digital development: digital inclusion**

Whilst the progress of digitisation has advanced at a substantial rate, we should not forsake that fact that the opportunities to participate within the digital arena are borne from access to basic digital infrastructure. Whether this access is in the form of physical terminals or to relevant literature, there is a need to be mindful of gaps where subsets of our socio-economic systems may reside. In this, I am referring to sections of our society that want, but do not have access to basic digital infrastructure so as to participate in this digital development (Mervyn et al., 2014). I will not revisit the principles of the United Nations Sustainable Development Goals (UN SDG) but rather contest that the provision of digital infrastructure has not kept pace with the digital developments within our markets – a view that is shared by many in the within the academic and professional world (Lewis et al., 2017b). In other words, at its current pace, the development of digitisation will outstrip the provision of digital infrastructure thus widening the opportunity gap. Fundamental arguments from the economics of education provision would suggest that this is undesirable. Moreover, regressive practices of constraining and thus slowing the innovation process of digitisation could be detrimental, which then leaves increasing the pace of digital infrastructure provision as the only solution (Baker, 2018).

Along this dimension of digital inclusion, researchers, once again, have opportunity to make considerable contributions. Unlike what has been discussed in the previous sections above, there is extensive empirical and theoretical work (Ekbia, 2016; Mervyn et al., 2014) into minimising the opportunity gaps amongst disadvantaged groups, and as such, progress in terms of generation of knowledge should be much quicker. Spatial and dynamic studies about the determinants of patterns of digital literacy within cities could prove beneficial in terms of informing policy makers about areas of investment. Moreover, the motivators of uptake of support mechanisms encouraging the development of digital literacy is still relatively nebulous in developed, frontier, and emerging economies (Ilomäki et al., 2016; Istance and Kools, 2013). It is also possible to extend our questions towards the mechanisms of support, in that what tools and instruments can we use to provide digital access opportunities. Moreover, there are multiplier effects to the generation of new knowledge in terms of digital inclusion, as it is possible to nest these incremental contributions within the amphitheatre of smart city development.

#### **5 Conclusions**

From the narrative thus far, it can be safe to say, that the extensive developments in terms of digitising our existence presents substantial opportunity. There are numerous questions that are as yet unanswered and many more questions as yet unasked. I should iterate that the sections and avenues for further research that I have raised above are not extensive nor exhaustive but should rather serve as a broad map illustrating some of the ‘points of interest’ on my proposed route through the digitisation of our economy. Moreover, I have motivated my discussions from a finance and economic perspective but we know that the management sciences extend to broader boundaries. Additionally, should the individual researcher find their own little ‘gems’ whilst on this route and beyond, all the better. It is my hope, and I am optimistic, that we can continue to generate incremental knowledge on

this digital frontier and that the *International Journal of Management Practice* will develop into a premier outlet for multi-disciplinary and international research on how digitisation impacts our existence across macro, meso, and micro dimensions. On behalf of the chief editor, the editorial team, and myself, we look forward to your submissions and hope that you join us in progressing the *International Journal of Management Practice* towards greater recognition and reputation amongst management scholars and practitioners.

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