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How Should We Theorise The 'Data Economy'?: Establishing A Dialogue Between Disciplines

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HOW SHOULD WE THEORISE THE 'DATA ECONOMY'?: ESTABLISHING A DIALOGUE BETWEEN DISCIPLINES

TREO Paper

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Abstract

This research begins with the proposition that the so-called 'data economy' deserves theoretical attention from Information Systems (IS), perhaps in dialogue with new concepts and techniques in other fields, for example, Complexity Economics (Arthur 2020, 2021) and Cognitive Economics (Johnson 2019). Thus this research aims to bring analytical clarity to, and draw distinctions between, various articulations of the 'data economy' drawing on IS contributions to our understanding of data.

Though a notional data economy is implied in IS literatures on digital platforms, ecosystems and (information) infrastructures - where data are understood to generate value for users, platforms and economies (Günther et al. 2017; Wiener et al. 2020), as well IS literatures on green IS and sustainability - where data are understood to generate societal and environmental value (Riggs et al. 2024), data themselves are not always foregrounded. Though some notable exceptions do focus on the role different types of data play in platform ecosystems (Alaimo et al. 2020), significant attention has instead been focused on the nature of interplay between heterogeneous actors, the means of interoperability of various hardware and software components, the creation and control over value chains and constitutively, the mechanisms of evolution and change across these phenomena. With increasing volumes of IS research focused on data themselves - their conceptualisation, relationships with value and performativity - this research is an early attempt to introduce routes into theorising the 'data economy', as a distinct phenomena worthy of engagement from the IS community, alongside the aforementioned body of work.

One particular motivation to embark on this research now is to speculate about the impacts of the emergence of an alternatively envisioned set of data relations comprised of decentralised data storage architectures coupled with linked data principles, known as 'Web 3.0', on data flows and value. This research considers how the Web 3.0 approach may produce different outcomes to the information asymmetries and business models that have typified Web 2.0. The Web 3.0 approach, which claims to grant control to individuals over their personal data sparked this research's curiosity about possible synergies with other fields exploring the (wider) economy as an emergent system (Arthur 2020, 2021), individual economic agents as sense-makers (Johnson 2019) and agent-based modelling techniques (Farmer & Foley 2009). This curiosity is rooted in an IS perspective of 'enactment' (Orlikowski & Iacono 2000), that will explore the implications of this orientation for theorising the data economy, and, contrasting features of a Web 2.0 data economy with a speculative Web 3.0 data economy, drawing on methodological approaches from IS futures research (Hovorka & Peter 2021).

Keywords: data economy, Web 3.0, decentralisation, complexity

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