

> Thursday, April 6th, 2023

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MIS

**RESEARCH
SEMINAR**



EMPOWERING CHANGEMAKERS FOR A BETTER SOCIETY

‘OLD BLOCK IN NEW CHAINS? THE DIFFUSION OF BLOCKCHAIN INNOVATIONS AND THE DISTINCT VIEWS ON THE VALUE OF INNOVATIONS THROUGH A DIGITIZATION-DIGITALIZATION LENS’

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ABSTRACT

A unique property of blockchain is that it simultaneously enables store of wealth innovations that are used as media of exchange, as well as product and service innovations. This duality has engendered a fair degree of ambiguity regarding the diffusion of token-based innovations, and it challenges extant theory which largely assumes that innovations are singular in terms of their value proposition. Past work has yielded conflicting results in terms of how the diffusion of an innovation is affected by i) the portfolio size of the userbase, ii) the actions of lead users, and iii) the availability of the innovation through transaction platforms. We posit that these conflicting results are due to two distinct views on the value of innovations: while some focus on the exchange value of tokens, others focus on their utility value, generating discrepancies in explaining the diffusion trajectories that innovations follow. Focusing on blockchain innovations, we provide theoretical and empirical insights by adopting the lens of digitization-digitalization to explain how the process of digitization enables innovations to realize more of their exchange value, while the process of digitalization enables innovations to realize more of their utility value, leading blockchain innovations to exhibit distinct diffusion patterns. We accomplish this while accounting for the mutually interdependent factors affecting innovations and their dynamic nature by employing a series of panel vector autoregressions (PVARs) analyzing over 200 million transactions associated with 24,430 public Ethereum-based tokens. We provide evidence that increases in the portfolio size of the userbase and decreased adoption by lead users positively affect the diffusion of digitized blockchain innovations based on security and payment tokens. In sharp contrast, we provide evidence that decreases in the portfolio size of the userbase, increased adoption by lead users, as well as increased facilitation of user interactions through transaction platforms positively affect the diffusion of digitalized blockchain innovations based on utility tokens. We conclude by discussing how this work advances how we should think about the diffusion of innovations in general, as well as blockchain innovations in particular.