

# The Role of Uncertainty in the Adoption of Blockchain Products: An Empirical Investigation of the Helium Network

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## **Abstract**

Blockchain technology is driving new applications in the form of decentralized networks that incentivize member participation and contribution through decentralized user rewards in the form of tokens and cryptocurrencies. One crucial advantage of blockchains is the ability to fund network growth using an internal currency as incentive. The flip side is the additional uncertainty of a reward based on a volatile cryptocurrency. This study investigates how this inherent uncertainty affects user adoption rates. We analyze hotspot adoption on the Helium Network across 21 cities to determine the relationship between reward uncertainty and adoption. Results indicate that higher uncertainty has a significant effect on the observed adoption. Our simulations suggest that a setting with low uncertainty (set at 5% percentile) could lead to adoption base 40% larger after 90 weeks.

**Subject Areas:** *Diffusion of Innovations, New Product Development and Launch*

**Track:** Innovation Management & New Product Development