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CRYPTOCURRENCY AND BLOCKCHAIN TECHNOLOGY IN INDIA

Abstract: this paper examines cryptocurrency and blockchain technology in India, emphasizing regulatory challenges, adoption trends, and industrial applications. Using statistical analyses and demographic insights, it explores drivers of adoption, constraints, and the future outlook within the Indian context. Key sectors such as finance and healthcare are highlighted, underlining India's potential as a blockchain hub.

Keywords: cryptocurrency, blockchain, India

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КРИПТОВАЛЮТА И ТЕХНОЛОГИЯ БЛОКЧЕЙН В ИНДИИ

Аннотация: в этой статье рассматриваются технологии криптовалюты и блокчейна в Индии, особое внимание уделяется проблемам регулирования, тенденциям внедрения и промышленному применению. Используя статистический анализ и демографическую информацию, в статье рассматриваются факторы, способствующие внедрению, ограничения и перспективы на будущее в индийском контексте. Выделяются ключевые секторы, такие как финансы и здравоохранение, что подчеркивает потенциал Индии как блокчейн-хаба.

Ключевые слова: криптовалюта, блокчейн, Индия

Cryptocurrencies and blockchain technology are redefining global financial systems, offering decentralized and transparent alternatives to conventional practices. In India, the proliferation of these technologies presents vast opportunities tempered by regulatory ambiguities. This paper analyses cryptocurrency and blockchain developments in India, highlighting their benefits, challenges, and future implications.

India's cryptocurrency market ranks among the fastest-growing globally [1]. By 2024, an estimated 115 million investors are projected, driven largely by the COVID-19 pandemic. The market size surged from $2 billion in 2019 to $50 billion in 2024[3].

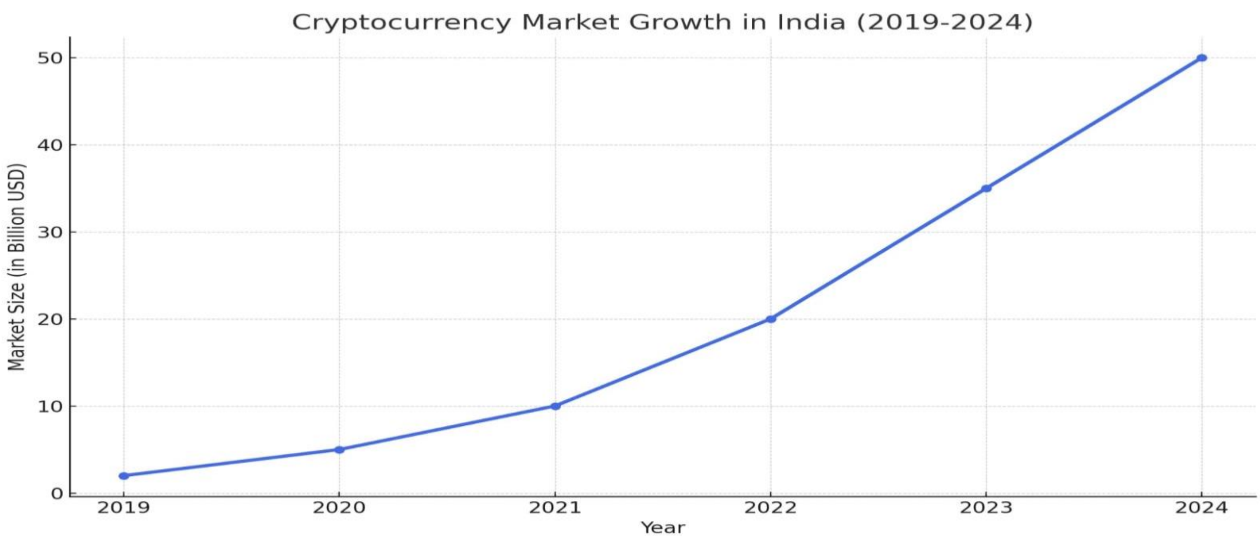

Figure 1 - Cryptocurrency market growth in India [1]

India's regulatory stance has oscillated significantly, starting with a ban by the RBI in 2018, overturned by the Supreme Court in 2020. This unpredictability continues to affect investor confidence and market stability. Despite challenges, cryptocurrency adoption is robust, with 7.3% of Indians trading digital assets like Bitcoin, Ethereum and Tether. Increased institutional interest and accessible trading platforms contribute to this growth.

Blockchain adoption spans sectors like finance, healthcare, logistics, and education, with finance accounting for 40% of use cases.

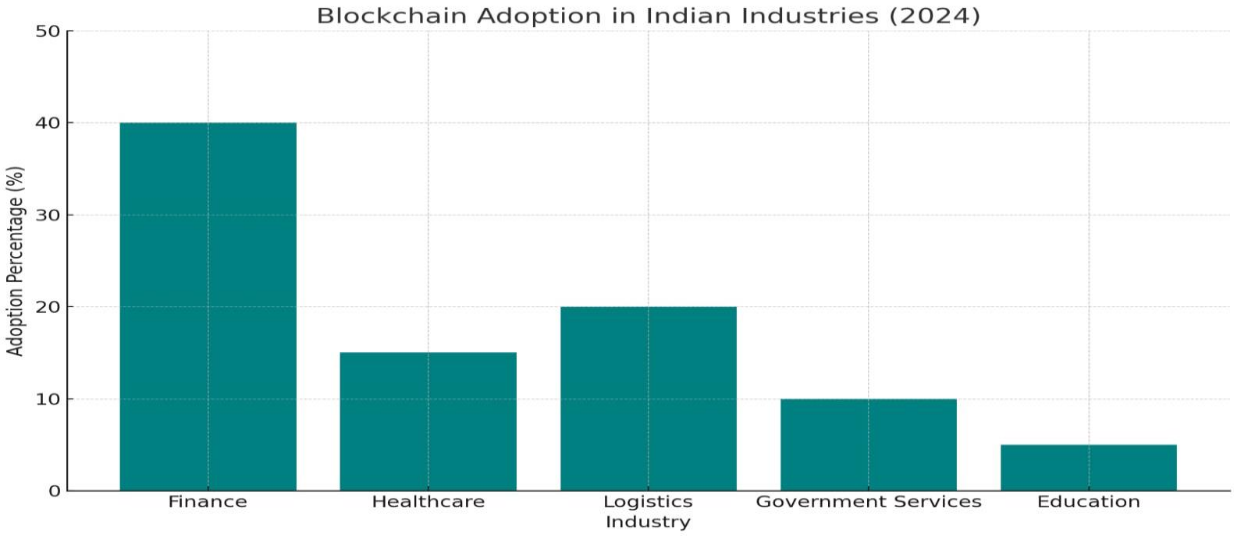

Figure 2 - Blockchain adoption in Indian industries

Leading Indian banks such as ICICI and Yes Bank utilize blockchain for cross-border transactions. Deloitte projects potential annual savings of $20 billion for Indian banks by 2030 through blockchain adoption [2].

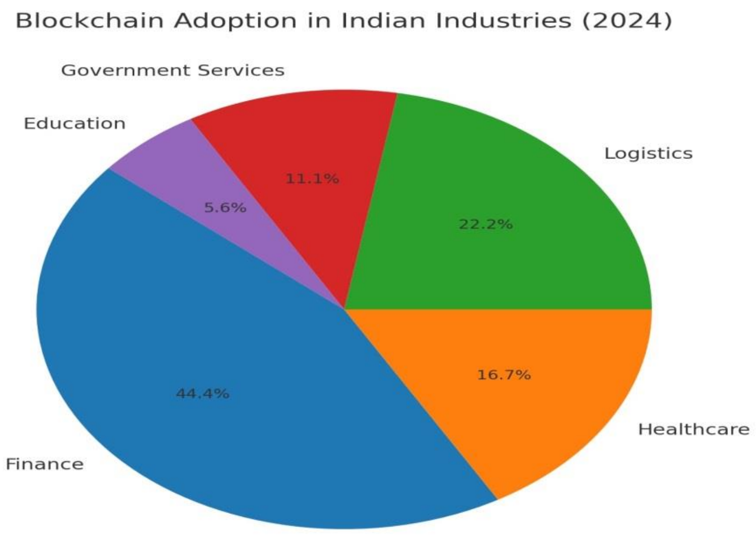

Figure 3 - Blockchain adoption in banking

Shifting policies deter investors and startups, resulting in increased compliance costs and reduced confidence. Low awareness, particularly in rural areas, slows adoption across sectors like healthcare and education.

The anonymity of cryptocurrencies fosters risks such as fraud and hacking, necessitating stronger security measures.

Cryptocurrencies are most popular among urban youth aged 20-35, with cities like Mumbai and Bengaluru leading adoption.

States like Maharashtra, Karnataka, and Telangana spearhead blockchain initiatives, leveraging government support to drive innovation.

Anticipated government regulations may stabilize the cryptocurrency market and encourage innovation. Applications in governance, healthcare, and logistics further underscore blockchain's transformative potential. Investments in R&D by agencies like MeitY highlight a promising trajectory for these technologies in India.

India's journey with cryptocurrency and blockchain reflects immense potential amidst challenges. Structured regulation, education, and improved security can catalyse widespread adoption and innovation, making India a global leader in these transformative technologies.

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