

Chapter 3

Extending UTAUT2 Model With Sustainability and Psychological Factors in Adoption of Blockchain Technology for the Digital Transformation of Banks in India

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ABSTRACT

Financial institutions' digital advancements are vital for sustainability, with blockchain having transformative potential. Banking pursues digital transformation due to fintech competition and cybersecurity worries, driven by technology advancements and customer expectations. FinTech start-ups prompt innovation from big banks. Industry 4.0 integrates blockchain, AI, and technology platforms that align with SDG8 and SDG9, promoting transparency, cost reduction, and company expansion. Therefore, the present research seeks to answer: What drives banks to adopt blockchain technology? It aims to identify factors influencing bankers' intention to adopt blockchain for digital transformation in Indian banks. A standardized scale with the addition of two more constructs (sustainability agenda and psychological framework) was used to achieve the objective of the study. The findings of the research enhance understanding of banks' technology usage and blockchain adoption. Findings validate nine factors influencing bankers' blockchain adoption.

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INTRODUCTION

Climate issues are still relevant amid the pandemic, and it is now more important than ever to prevent environmental degradation (Huynh, 2020; Huynh et al., 2022; Kovilage, 2020; Liu et al., 2021; Vyas et al. 2023). Most ecological problems are caused by greenhouse gas emissions, primarily from fossil fuels and non-renewable energy sources. One way to promote green banking is to emphasize how crucial it is to link the desire to use online banking with the desire to protect the environment and be happy. Banking is going through a technological revolution because fin-tech companies are getting increasingly competitive and want to offer green banking and sustainable financial services (Mehta et al., 2022). The service sector is a significant part of most developed countries' GDP today (Borghi, 2019). Fin-tech start-ups that use technology to give customers different banking and other financial services have made the big banks have to develop new ideas to stay competitive. Intelligent decision models used data mining in the 1990s to improve the way standard bank functions worked for insurance (Anand, Patrick, Hughes, and Bell, 1998). "Industry 4.0" is a new wave of disruptive technologies that have recently appeared in our society and spread to several industries (Hou et al., 2020; Chang et al., 2019). Industry 4.0 includes a wide range of technologies, such as artificial intelligence (AI), blockchain, and the internet of things (IoT), as well as cloud computing, 3D printing, and cyber-physical systems (CPS) (Chang et al., 2020). ATMs have replaced human tellers for repetitive cash withdrawals and deposits, reducing the need for human help. (Huang & Rust, 2018). Modelling with neural networks showed that the perceived ease of use is essential for online banking to be accepted in developing countries like India.

Artificial intelligence has recently helped Indian banks cut down on technical inefficiency by up to 11%, and when combined with big data, it makes smart marketing possible. (Kushwaha, Kar & Dwivedi, 2021; Verma, Sharma, Deb & Maitra, 2021; Mor & Gupta, 2021;). Banks have the potential to leverage the vast quantities of data they handle to greatly improve decision-making across a broad spectrum of activities. By incorporating artificial intelligence (AI) into their operations, banks can enhance their ability to make more informed and effective choices in areas including back-office operations, customer experience, marketing strategies, product delivery, risk management, and compliance. AI-driven systems can analyze and interpret data on a massive scale, enabling banks to optimize processes, personalize customer interactions, target marketing efforts, streamline product delivery, mitigate risks, and ensure regulatory compliance. Artificial intelligence would change banks by emphasizing the amount of data more than the size of their assets. Instead of making things for many people, banks would now want to give their customers unique experiences. Banks will now be able to pay more attention to their customers and keep them by giving them big reasons to stay instead of making them pay big fees to switch (Khanna & Sharma, 2017). Banks would no longer depend only on human innovation to improve their services. Instead, skill and technology would work together to improve performance. According to the WEF report "The New Physics of Financial Services," the use of AI in banking and financial services will make it possible for growth in those fields. These options are spread across capital markets, deposits, loans, payments, investment management, and market infrastructure.

Over the past century, the amount of greenhouse gases (GHG) has steadily gone up. About 584 Gt of CO₂ from fossil fuels, changes in land use, and industrial activity are a big reason why the global temperature has increased by 0.9 °C since 1960. The top GHG-emitting countries globally include the USA, China, Japan, Germany, and India, which have been the major ecological footprint hotspots since 2019. The banking industry has adopted many platforms that are based on technology. It helps with operational transparency and reduces the bank's overall cost. It has also helped the business grow by

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