

Incentivizing Green Behaviour Through AI-Powered Micro-Investment Platforms: A FinTech Proposal

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ABSTRACT

The escalating climate crisis requires innovative approaches beyond conventional regulatory systems and private environmental programs to stimulate behavioural change at the individual consumer level. This paper proposes a decentralized financial ecosystem that integrates artificial intelligence, behavioural economics, and micro-investment infrastructure to create a direct financial linkage between pro-environmental behaviours and sustainable wealth creation. The proposed AI-based micro-investment platform employs machine learning, IoT sensor networks, and blockchain verification protocols to track, authenticate, and quantify individual green behaviours such as sustainable transportation choices, recycling practices, energy consumption optimization, and carbon footprint reduction. These verified behaviours are subsequently converted into fractional equity stakes in ESG-compliant investment vehicles and green financial instruments. The study draws on theoretical foundations from behavioural economics, environmental psychology, and sustainable finance to develop the conceptual framework and technological architecture, including AI verification systems, distributed ledger technology, and secure data management protocols. By incorporating principles such as nudge theory, hyperbolic discounting mitigation, and gamification, the proposed framework seeks to bridge the intention–action gap in environmental behaviour. The platform aims to transform abstract environmental awareness into tangible financial participation while democratizing access to sustainable investment opportunities and generating measurable positive environmental externalities.

Keywords: Artificial Intelligence; Behavioural Economics; Sustainable Finance; Pro-environmental Behaviour; ESG Investments; Blockchain

