

Chapter 12

Dentacoin: A Blockchain–Based Concept for Dental Healthcare

Rafael Duarte Pinto

*ISEG, Lisbon School of Economics and
Management, University of Lisbon, Portugal*

Diana Madaleno Ferreira

*ISEG, Lisbon School of Economics and
Management, University of Lisbon, Portugal*

Maria Teresa Barbosa

*ISEG, Lisbon School of Economics and
Management, University of Lisbon, Portugal*

Margarida Chinita Nieto

*ISEG, Lisbon School of Economics and
Management, University of Lisbon, Portugal*

Ana Filipa Funenga

*ISEG, Lisbon School of Economics and
Management, University of Lisbon, Portugal*

Marta Sousa da Silva

*ISEG, Lisbon School of Economics and
Management, University of Lisbon, Portugal*

Pedro Picaluga Nevado

*ISEG, Lisbon School of Economics and
Management, University of Lisbon, Portugal*

ABSTRACT

Blockchain is a decentralized digital ledger of transactions shared amongst all participating web nodes, over which every data is recorded. Since the first blockchain was conceptualized in 2008, much research has been done to expand its applications to non-financial purposes. Dentacoin is the first cryptocurrency ever created worldwide that strives to create a dental industry community by rewarding people with a given token—Dentacoin cryptocurrency—for specific actions that have a desirable effect on the Dentacoin ecosystem. This concept aims to improve the global dental market by applying blockchain technology advantages and promoting intelligent prevention in dental healthcare. The purpose of this chapter is to review the concept of blockchain-based Dentacoin ecosystem, as it is expected that, in the future, this method will significantly improve dental health and oral hygiene habits, thus improving the quality of life for individuals resulting in overall health enhancement and increased longevity.

DOI: 10.4018/978-1-7998-7363-1.ch012

INTRODUCTION

Similar to how the Internet has changed the world by providing better and greater access to information, blockchain technology is ready to change the way people do business, promising a new dimension of conducting commercial transactions between untrusted entities (Yassine et al., 2020).

Although there are many severe objections to the use of this technology in the most critical and government-mediated financial exchanges, blockchain technology has several valuable resources of interest and research in the areas of e-business and e-commerce. In addition, the openness of distributed ledger technology also makes visibility ubiquitous, rather than leaving it entirely under the control of some chosen trusted parties. The mindset of a whole generation of traditional online exchange users will take some time to adapt to the new philosophy of open and decentralized exchanges. It is correct to say that users' sociocultural and economic backgrounds will play an important role in the final diffusion of this technology (Ghosh, 2019; Justinia, 2019).

Blockchain technology has a global extension and could connect users worldwide, allowing them to carry out transactions with encryption, data security, and decentralization. The implications of opening the transaction system to individual consumers and businesses are substantial. These transactions are carried out in many different types of markets and platforms. Because of its diversity, the perception of a particular transaction or contract may vary widely between users in different geographic regions and countries.

The implications of global blockchain technology research are multifaceted. First, the transactional transparency built into the openness of technology can be a double-edged sword. It is unlikely that an established institution's absence of coordination and intermediation will be interpreted uniformly by people of all cultures and lifestyles in all countries of the world.

The role played by trust in international supply chain transactions is still very unclear. Although an open market economy depends on its smooth functioning of formalized and explicit trust-based agreements and protocols, many essential business transactions have an informal nature based on trust relationships between companies in many developing and transitional economies in the world.

The problem of how two parties with different business structures and based on different economies worldwide can be linked together to carry out decentralized and trust-based transactions in the international market is highly unexplored (Ghosh, 2019).

BACKGROUND

Blockchain Technology: Concepts and Applications

Blockchain technology is one of the recent years' most significant technological innovations, particularly in digitalization secure asset ownership. This technology was founded upon the concept of a distributed ledger, decentralized cataloging, and accounting for large volumes of data. It is seen by many as a disruptive technology that will revolutionize business and redefine companies and economies (Ghosh, 2019). It is the underlying technology of Bitcoin and has come up with several promising potential applications, with an architecture that allows different and unique users to make transactions and presents the ability to create an unchangeable, secure record of those transactions (Mearian, 2019).

18 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/dentacoin/282346

Related Content

Spatiotemporal Data Modeling Based on RDF

(2024). *Uncertain Spatiotemporal Data Management for the Semantic Web* (pp. 1-43).

www.irma-international.org/chapter/spatiotemporal-data-modeling-based-on-rdf/340782

Ethical Marketing: A Systematic Literature Review

Nibedita Gogoi, Rounak Agarwal and Sumanta Dutta (2024). *Ethical Marketing Through Data Governance Standards and Effective Technology* (pp. 74-82).

www.irma-international.org/chapter/ethical-marketing/347137

Edge Cloud: The Future Technology for Internet of Things

Lucia Agnes Beena Thomas (2022). *Research Anthology on Edge Computing Protocols, Applications, and Integration* (pp. 158-181).

www.irma-international.org/chapter/edge-cloud/304303

Ranking Properties of Spatiotemporal RDF Data

(2024). *Uncertain Spatiotemporal Data Management for the Semantic Web* (pp. 72-80).

www.irma-international.org/chapter/ranking-properties-of-spatiotemporal-rdf-data/340785

Big Data With IoT for Smart Farming

Supriya M. S. and Meenaxy Roy (2021). *Applications of Big Data in Large- and Small-Scale Systems* (pp. 99-114).

www.irma-international.org/chapter/big-data-with-iot-for-smart-farming/273923