Chapter 4
Digital Identity Powered Health Ecosystems: Opportunities, Challenges, and Future Directions

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ABSTRACT

The United Nations (UN) and World Bank ID4D initiatives aim to provide everyone on the planet with a legal identity by 2030. They are centered around emerging technologies such as blockchain, artificial intelligence, biometrics, and cryptography, and how they can benefit the underprivileged. However, all stakeholders that can influence the creation of a global digital identity ecosystem will have to collaborate closely in order to be successful. Governments, not-for-profit institutions, lawmakers, policymakers, private sector, and academia should all play a vital role. While the fintech industry has been a leader in driving adoption of digital identity, the healthcare and life sciences industries are widely regarded as equally important, as they have a crucial impact on the global economy and global public health. For long term sustainability, meaningful impact and optimal value creation, we must focus on building global health ecosystems where traditional industry boundaries will become irrelevant, and we transition towards a human-centric personalized medicine model.

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INTRODUCTION

In contrast to classical human identity, digital identity is machine-related and deployed to represent external agents used by computer systems. It can refer to a person, an organization, an application or a device. Digital identity includes multiple formats and can be expressed as electronic signatures, seals, time stamps, registered delivery, website identity authentication etc. However, when designing and building ecosystems that require digital identity we need to harmonize the digital with the philosophical and legal aspects of identity in order to develop sustainable legislative and regulatory frameworks. Understanding the naturalist versus constructivist world view, as well as how the right to a digital identity interferes or augments the other legal rights requires a complex and thoughtful approach. In various regions of the world the right to own a digital identity versus the right to life, our personal integrity, our physical privacy, our freedom of expression, our right to vote or our intellectual property might not always be synergistic or even in total contradiction.

Establishing sustainable digital identity ecosystems will require a global focus on financial inclusion, mindful design and state of the art governance. There are several foundational principles that all stakeholders will need to follow in order to be successful, such as universal coverage from birth to death, ensuring global cross-border interoperability and validity, as well as vendor and technology neutrality. Sustainable implementation and adoption of universal digital identities will require investments in basic technology infrastructure, trust in the ecosystem, as well as a well designed policy and regulatory framework.

Digital identity can have a major impact on numerous industries, however the recent pandemic and the looming 5th industrial revolution has highlighted how it can act as a gateway between the global health ecosystem and all other business ecosystems by reducing the digital and financial divide. Changing the paradigm in global health can trigger a global health renaissance with emphasis on wellness, disease prevention and longevity.

This global health renaissance could in turn have a major positive impact on the global economy, however we must preserve trust and the realization of personalized medicine through the Quantified Self and Participatory Citizenship (Swan, 2012). Trust and identity are fundamental issues to both the social and digital environments (Kumar & Pradhan, 2020) and we must carefully balance, and integrate the social and digital scenarios in the digital race witnessed by our society.

The objective of this chapter is to highlight how deploying digital identity at large scale could solve some of the major pinpoints in healthcare and help move the needle towards creating a precision medicine, personalized, prevention and wellness focused ecosystem. Furthermore, the chapter will hone in on challenges and