



Hi {{ contact.FIRSTNAME | default : "there" }},

Welcome to the November 2023 edition of the BRI Newsletter. We hope you find this content useful. You can find a PDF version of the newsletter [here](#). As always, if you have any comments, announcements, or recommendations for content in future editions, or would like to contribute content, please let me know:

[douglas@blockchainresearchinstitute.org](mailto:douglas@blockchainresearchinstitute.org)



## From the Editor's Desk

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### Web3 in the Pharmaceutical industry

By Doug Heintzman  
Chief Catalyst, BRI

This summer, I dedicated several months to an intriguing project: researching and authoring a new BRI research paper on Web3's impact on the pharmaceutical industry. I'm excited to share that this paper is now published and [available for BRI members](#).

Having been involved in the life sciences and pharmaceutical sector for about 15 years through board and advisory roles, this industry holds a special place in my heart. It's not only doing vital work to enhance human health, but it's also a perfect example of an industry facing significant challenges and poised for a major technological transformation in the coming decade.

It might come as a surprise, but over the past 50 years, the pharmaceutical industry has seen a notable decline in capital productivity and innovation relative to many other industries. This phenomenon is so pronounced that industry experts have dubbed it Eroom's Law – Moore's Law in reverse. Astonishingly, the number of new drugs getting approval has plummeted by approximately eighty times from 1950 to 2012, when adjusted for inflation. In 2022, the average cost to launch a new drug was a staggering \$2.2 billion USD. Add to that, new drugs can take between 12 to 18 years to hit the market, with only about 10% clearing clinical trials and receiving regulatory approval.

While my research and paper delve into various topics like cold chain and clinical trial management, issues of forgery and piracy, regulatory compliance, and cultural adoption challenges, one key insight stands out: the profound impact of personalized medicine.

Traditional drug clinical trials often fail due to insufficient efficacy, as they aim to include a wide range of ages and ethnicities to prevent bias. Personalized medicine, however, challenges this approach. It

suggests that by molecularly distinguishing different groups, using AI to identify patterns for drug benefits, targeting clinical trials at specific population subsets, focusing financial resources on niche targets through research DAOs, and streamlining regulatory approvals for narrowly targeted drugs, we can provide more people with life-saving and quality-of-life enhancing medications. This approach not only benefits patients but also revitalizes the industry by delivering greater value to the healthcare system.

The paper explores this topic in detail and examines many others. The reason for highlighting this particular aspect is its hopeful message. Technological advancements are enabling us to revisit our assumptions, rethink our limitations, and envisage new possibilities. In this context, some advances are industry-specific, like genomic testing and mRNA platforms, while others, like deep computing and soon quantum computing, facilitate simulations and protein folding. Web3 technologies also play a crucial role, impacting a wide range of areas.

AI is accelerating drug discovery and optimizing operations. Blockchain is enhancing supply chain tracking and clinical trial consent management. IoT is key to digital twins and therapeutic compliance. Extended realities are enabling advanced visualizations and improving laboratory safety.

By observing the pharmaceutical industry, we can extract valuable lessons and identify patterns applicable across various sectors.

Postscript: You may find it interesting to know what happened when I tested different versions of this paper's manuscript with an AI-based generative AI detector. I've shared this experience in [a LinkedIn post](#).

## Announcements and News

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The Web3 book tour has already visited Toronto, San Francisco, Los Angeles, New York, Miami, Montreal, Washington, Boston, Calgary, Vancouver, Ottawa, and Chicago. Only one city left in the North American tour:

Detroit - Thursday 30th November 2023

If you happen to be in Detroit on the 30th please join Alex and a distinguished panel in discussing the advent of the Web3 era.

You can register to attend at [web3booktour.com](https://web3booktour.com).

We look forward to connecting with you.

thought leaders who share their knowledge on digital transformation with the rest of the world in an indispensable strategic aid.



You can now download the [The Chief Transformation Officer: Why Transformation Leaders Matter, What They \(Should\) Do, and What They Need to Succeed](#) to learn the traits of transformational leadership and how you can help your organization thrive in a changing world.



HYPERLEDGER

Hyperledger Foundation's Senior Director of Ecosystem and Strategic Initiatives, Karen Ottoni wrote a fascinating article on [The Case for Open Development as the Foundation for Central Bank Digital Currencies](#)



HYPERLEDGER

Hyperledger Supply Chain & Trade Finance Special Interest Group published an ebook: [Hyperledger in Action – Supply Chain & Trade Finance](#)



HYPERLEDGER

The Hyperledger member summit will take place in Tokyo Japan on December 4th. You can find more information [here](#).



Stability Protocol released its public testnet. You can get the documentation [here](#).

## Featured Research

### BRI BIG IDEA WHITE PAPER

#### Web3 in the Pharmaceutical Industry

How blockchain, artificial intelligence and other digital technologies will transform productivity and innovation in the pharmaceutical industry.

**Douglas Heintzman**  
Blockchain Research Institute

[Learn more](#)

### BRI BIG IDEA WHITE PAPER

#### Which Smart Contract Platform do you need?

This research helps leaders to determine which smart contract platform is right for their blockchain use case.

**Massimo Bartoletti**  
University of Cagliari

[Learn more](#)

### BRI BIG IDEA WHITE PAPER

#### Decentralized Finance Analysis

How to Identify Value Within the

### BRI BIG IDEA WHITE PAPER

#### Coopetition in Global Commerce

Why it will take a pro-

Crypto Ecosystem

**John Robison**, Columbia University  
**Aryan Sheikhalian**, CMT Digital  
**Alex Tapscott**, Ninepoint Partners LP

competitive Global Village to scale Blockchain

**Dale Crystie**  
FedEx Corporation

[Learn more](#)

[Learn more](#)

## Headlines

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[From Web3 to Travel3: Unveiling the Potential of Decentralized Marketing in Enhancing Travel Experiences](#)

[From Web3 to Travel3: Unveiling the Potential of Decentralized Marketing in Enhancing Travel Experiences](#)

[Hashing It Out: How Web3 is causing an evolution of traditional finance](#)

[Social Network MeWe Heralds Migration of Users to Web3 From Web2](#)

[From Web3 to Travel3: Unveiling the Potential of Decentralized Marketing in Enhancing Travel Experiences](#)

[Belgium seeks to reboot EU blockchain infrastructure project](#)

[Blockchain in Energy Market Size Worth USD 81,205.98 Million in 2032](#)

[Automotive Blockchain Market Size Worth USD 6.48 Billion in 2032](#)

[5 Developments in the African Metaverse](#)

[Australian Regulators Tout AI as Key Tool to Protect Consumers](#)

## BRI Education

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### WEB3 AND BLOCKCHAIN FUNDAMENTALS

**\*NEW\* Short course!** Earn your certificate in under 4 hours. Developed by the BRI in collaboration with INSEAD and Coursera.

Enroll today!

[bit.ly/w3b-fundamentals](https://bit.ly/w3b-fundamentals)



The demand for Web3 and blockchain education is high, and Coursera—the world’s largest provider of Massive Open Online Courses (MOOCs)—has identified it as an “in-demand topic” for 2023. As a

member of the BRI community, we also recognize that your time is incredibly valuable and that your busy schedules can make it challenging to commit to lengthy educational programs. That's why we're excited to announce the launch of our new short course, [Web3 and Blockchain Fundamentals](#), developed in collaboration with INSEAD and Coursera.

We've designed this new course specifically with our community of business leaders in mind. In under four hours, you'll gain a comprehensive understanding of the fundamentals of Web3 and blockchain technology, including topics such as digital assets (tokens), smart contracts, decentralized autonomous organizations (DAOs), and the blockchain "trilemma." You'll also explore some real-world use cases and examples of companies that have successfully incorporated blockchain into their business models.

At BRI, we are committed to delivering the most relevant and tailored educational content to our Members. That's why we want to remind you that our team is always available to discuss the possibility of customizing our courses to meet the specific needs of your organization, audience, or customers. Whether you're looking to deepen your knowledge of Web3's impact on a particular industry or to achieve specific targeted learning objectives, we are here to help you create a bespoke educational program that is right for you. Reach out to us today to discuss how you can leverage the BRI's expertise to enhance your organization's learning experience.

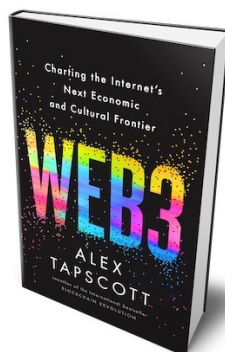
## Explore our online courses



[Learn more](#)

## Books

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### Web3: Charting the Internet's Next Economic and Cultural Frontier

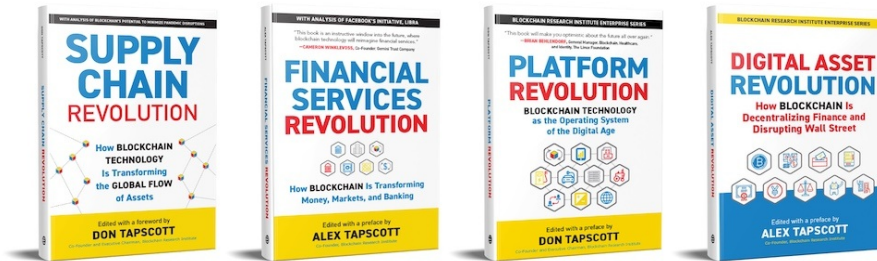
Authored by BRI co-founder, Alex Tapscott, this book serves as a cutting-edge guide to the Internet's next era, covering everything from the metaverse and NFTs to decentralized finance and self-sovereign identity.

Release Date: September 19, 2023

Pre-order today on [Amazon.com](https://www.amazon.com) or [Amazon.ca](https://www.amazon.ca)

To inquire about sponsoring the book tour or volume purchases, please visit [alextapscott.com](https://alextapscott.com).

## BRI Book Series



[Learn more](#)

## Podcasts

### W3B Talks

Listen to our latest episode: [WEB3 and AI with Irving Wladawsky-Berger](#)

You can find "W3B Talks," our podcast series on Web3 and its impact on business and society [here](#).

You can also find it on your favourite podcasting platforms such as [Spotify](#), [Amazon Music](#), [Google Podcasts](#), and [Apple Podcast](#).



### DeFi Decoded

Check out the latest episode of DeFi Decoded with Alex Tapscott and Andrew Young: [Narratives and Themes for the Next Bull Market](#)

You can see other episodes on YouTube [here](#).



## About BRI

[Blockchain Research Institute](#) is a global think-tank exploring the promise of blockchain technology for business, government, and society. Our syndicated program is funded by an international community of Member organizations, including enterprises, governments, and technology start-ups from around the world.

We're always looking for new organizations to collaborate with, through a number of initiatives:

- BRI Member Program

- BRI Global Partnership Program
- Web3 and Blockchain World Conference

For all inquires, please email [douglas@blockchainresearchinstitute.org](mailto:douglas@blockchainresearchinstitute.org)

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