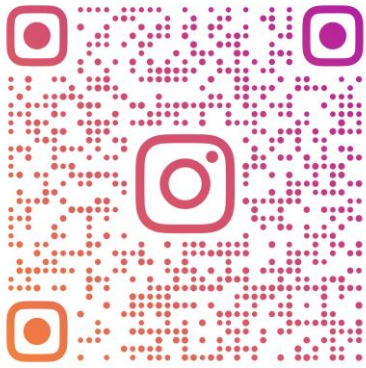




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“Evolving Financial Solutions: Syariah Perspectives and Industry Readiness”

Prof. Dr. Raditya Sukmana SE., MA.

**Coordinator of the Islamic Economics Doctoral Program
Faculty of Economics and Business, Universitas Airlangga**

Presented on :

SYARIAH ADVISORY FORUM – BILIF

16 September 2026 | Brunei Darussalam



DIGITAL BANKING & EMBEDDED FINANCE

Indonesia: Mature Digital Infrastructure, Shariah Governance Mostly Ready



INDONESIA TODAY



QRIS: 57 million users



39.3 million merchants
by H1-2025



Digital banking, e-money,
QR payments and
embedded services are
becoming **mainstream**



SHARIAH ISSUES



Validity and transparency
of **digital aqad**



Riba and gharar in
underlying products



Unclear fees and
hidden charges



Consumer consent and
disclosure in digital
interfaces



REGULATORY / SHARIAH RESPONSE



DSN-MUI Fatwa 116/2017:
Shariah Electronic Money



DSN-MUI Fatwa 117/2018:
IT-Based Financing Services
Based on Sharia Principles



**OJK digital banking and
digital services regulations**
provide the institutional
foundation

*Technology
for a More Inclusive
and Ethical Future*



KEY TAKEAWAY

Indonesia has built strong digital payment infrastructure; the next challenge is ensuring that digital interfaces, embedded products and automated services remain **transparent** and **Shariah-governed**.

QRIS QR Code Standar
Pembayaran Nasional



Nama Merchant Baso Jono 1

NMID: XXXXXXXXXXXXXXXX

TID



SATU QRIS UNTUK SEMUA

Cek aplikasi penyelenggara
di: www.aspi-qr.is.id

Dicetak oleh: [Kode NNS]
Versi cetak: x.x.xc.xc.xc

Cara bayar dengan QRIS:



BUY NOW PAY LATER (BNPL)

Indonesia: Clearer Regulation, but Shariah Structuring Still Matters

INDONESIA TODAY

Indonesia now has a dedicated BNPL regulation: **POJK No. 32/2025**.

It covers BNPL provided by commercial banks and financing companies.

It includes institutions operating under Shariah principles.

BNPL is no longer only a market trend; it is now a regulated financial reality.

CONVENTIONAL MODEL



SHARIAH ALTERNATIVE



MAIN SHARIAH RISKS

-  **Riba** from interest-bearing debt
-  Fees becoming disguised interest
-  Lack of transparency in pricing structure
-  Consumer over-indebtedness and fairness concerns

GOVERNANCE RESPONSE

-  **POJK 32/2025** explicitly recognizes conventional and Shariah BNPL.
-  **DSN-MUI** already provides relevant foundations, especially **Fatwa 117/2018** on Shariah technology-based financing.
-  However, there is not yet a dedicated **DSN-MUI** fatwa specifically labelled "BNPL Syariah" in the official fatwa catalogue.

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KEY TAKEAWAY

Indonesia has moved ahead in regulating BNPL. The next challenge is ensuring that Shariah BNPL is structured with **clear contracts, transparent pricing and genuine non-interest-based mechanisms**.



Pengajuan
Pembiayaan

Tipe
Pembiayaan

Kerja
Sama

Kebijakan
Privasi

Layanan
Pengaduan

Tentang
Kami

Syarat &
Ketentuan

Kontak
Kami

Masuk/Daftar

Berbelanja semakin mudah dengan Duha Syariah

01. Unduh aplikasi Duha Syariah di Google Play atau App Store

Unduh aplikasi Duha Syariah dan daftar menggunakan no handphone. Admin Duha akan memverifikasi dan menganalisis data Anda untuk persetujuan plafon.

02. Kunjungi platform marketplace atau mitra yang bekerjasama dengan Duha

Kunjungi marketplace atau mitra yang sudah bekerja sama dengan Duha Syariah antara lain Bhinneka, Halalpedia, dan lainnya. Anda juga dapat mengajukan pesanan barang/jasa di tempat favorit Anda dengan menghubungi Customer Service melalui Whatsapp.

2



3



4



02. Kunjungi platform marketplace atau mitra yang bekerjasama dengan Duha

Kunjungi marketplace atau mitra yang sudah bekerja sama dengan Duha Syariah antara lain Bhinneka, Halalpedia, dan lainnya. Anda juga dapat mengajukan pesanan barang/jasa di tempat favorit Anda dengan menghubungi Customer Service melalui Whatsapp.

03. Pilih barang / jasa yang mau dibeli

Pilih barang / jasa yang Anda ingin beli kemudian lakukan proses checkout.

04. Pilih sistem pembayaran cicilan dengan menggunakan Duha Syariah

Pilih sistem pembayaran cicilan dengan menggunakan Duha Syariah dan tentukan tenor pembiayaan yang Anda inginkan. Selamat mencoba!

TOKENIZATION

Indonesia: Rapid Regulatory Progress, While Shariah Structuring Still Requires Greater Clarity



INDONESIA TODAY



OJK has already tested tokenization through its regulatory sandbox.



By 2026, sandbox models that had passed testing included: gold tokenization; securities tokenization under a KPD/fund-management contract; and property ownership-benefit tokenization.



OJK's roadmap and publications also discuss tokenized assets, including a dedicated *Beyond Infinity* edition on Real World Asset tokenization.



THE SHARIAH QUESTION

Tokenization is only a representation technology.



What does the token represent?



Who owns the underlying asset?



Does token ownership transfer beneficial or real ownership?



Can the underlying asset be delivered?



What generates the return?



REGULATORY DEVELOPMENT



POJK No. 3/2024 provides the umbrella innovation framework and regulatory sandbox.



OJK has moved ahead with tokenized-asset experimentation and roadmap development.



Tokenization is becoming part of Indonesia's formal financial innovation landscape.



SHARIAH GOVERNANCE GAP



The technological and regulatory framework is advancing rapidly.



However, a dedicated comprehensive DSN-MUI framework specifically for tokenization is not yet evident in the published fatwa catalogue.



Therefore, the key challenge is to ensure that token structure, ownership, asset backing, and return mechanism remain Shariah-compliant.

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Apa itu Tokenisasi RWA?



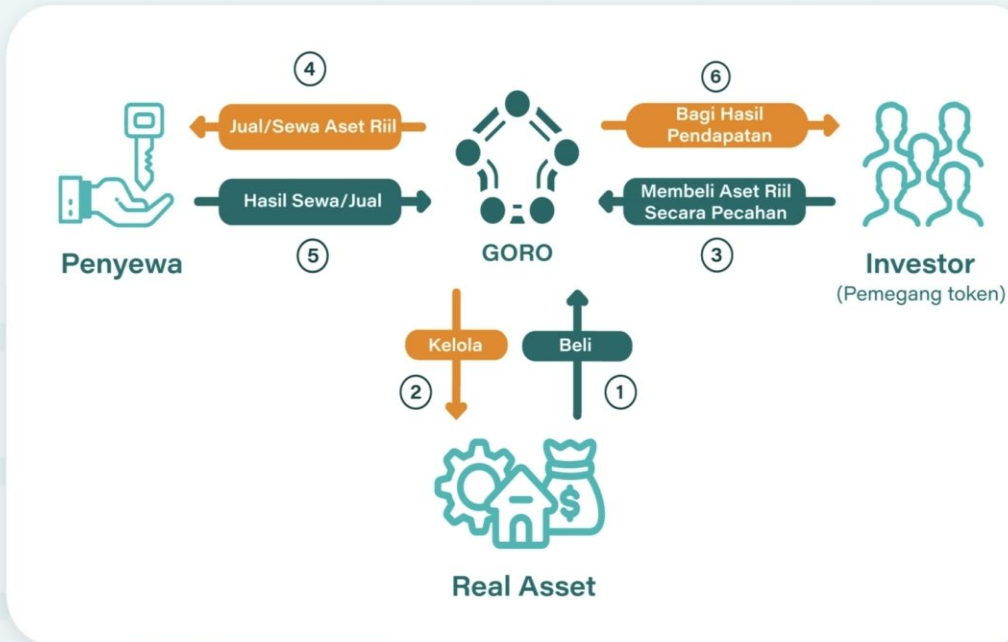
TIDAK TERJANGKAU
IDR 6 MILIAR



TERJANGKAU
IDR 10 RIBU

Proses Bisnis GORO

Model Bisnis yang Transparan dan Selaras dengan
Prinsip Syariah untuk Hasil yang Berkelanjutan



1. Akuisisi Aset Riil

GORO membeli atau menguasai properti sebagai dasar investasi (*underlying asset*).

2. Tokenisasi Aset

Properti diubah menjadi token digital yang tercatat di blockchain.

3. Listing Aset di Platform

Token dan informasi legalitas-statistik pendapatan properti ditampilkan di platform GORO untuk dibeli pengguna.

4. Pengelolaan & Penyewaan

GORO (atau mitra) menyewakan properti agar menghasilkan pendapatan operasional.

5. Penerimaan Pendapatan Sewa

GORO menerima pemasukan sewa dari properti secara berkala.

6. Distribusi Pendapatan Bulanan

Setelah dipotong biaya operasional dan pemasaran, pendapatan sewa dibagikan tiap bulan kepada pemegang token sesuai proporsi kepemilikan.

Ringkasan Model Bisnis

Akuisisi

Tokenisasi

Rental

Distribusi

Investasi RWA Lama vs GORO

Cara lama berinvestasi



Penghalang Masuk Tinggi



Tidak Likuid



Sulit Dikelola



Intensif Waktu



Sulit Investasi Lintas Batas



Dengan GORO

Investasi mulai \$1 / IDR10.000



Jual Kapan Saja



Pendapatan Pasif Bulanan



Investasi dalam Beberapa Menit



Investasi Global Dimungkinkan



SMART CONTRACT

The Technology Can Execute a Contract – But Cannot Determine Whether It Is Shariah-Compliant



HOW IT WORKS

Traditional Contract



Ex murabahah

Smart Contract



Examples

- Automatic payment
- Automated asset transfer
- Programmed profit distribution
- Conditional release of funds



SHARIAH ISSUE

A smart contract is essentially an **execution mechanism**, not an **aqad** by itself.

Critical questions:



Does digital consent constitute valid *ijab-qabul*?



How to ensure Shariah compliance in the coding and underlying structure?



Who is accountable if there is an error or unintended outcome?



There appears to be no dedicated DSN-MUI fatwa specifically on smart contracts in the published catalogue reviewed.



REGULATORY RESPONSE



OJK already recognizes smart contracts as part of the digital-finance landscape.



In 2025, OJK's innovation activities included smart-contract audit and on-chain analysis.



KEY IMPLICATION



Smart contracts can increase efficiency and transparency, but Shariah governance must keep pace with technological development.

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Indonesia



DIGITAL ASSETS

The Largest Gap Between Financial Regulation and Shariah Classification



REGULATORY DEVELOPMENT



Since January 2025, supervision of crypto/digital financial assets transitioned from Bappebti to OJK, pursuant to the P2SK framework.



Key regulations:

POJK No. 27/2024
Digital Financial Assets including Crypto Assets.



POJK No. 23/2025
Strengthening/amending the digital-asset trading framework.



Digital assets are already a regulated financial reality in Indonesia.



MUI IJTIMA ULAMA 2021



Cryptocurrency as currency
Not permissible
because of *gharar*, *dharar* and incompatibility with Indonesian monetary rules.



Crypto as commodity / digital asset
Not permissible
if it contains *gharar*, *dharar*, *qimar* and does not fulfil the Shariah requirements of *sil'ah*.



Crypto asset fulfilling sil'ah requirements
May be traded
if it has an underlying asset and clear benefit.



KEY TAKEAWAYS



The MUI position is nuanced and **not simply "all crypto is haram."**



Regulation has moved decisively, but Shariah classification still requires **greater clarity.**



The challenge ahead is to develop a **comprehensive, principle-based Shariah framework** for digital assets that is aligned with regulatory development.

Innovative Finance for a More Inclusive Indonesia



THE IMPACT OF CENTRAL BANK DIGITAL CURRENCIES NEWS ON BANK STABILITY: EVIDENCE FROM ASEAN-5 COUNTRIES

Firman Hidayat*, Raditya Sukmana**, Masrizal***, and Rahmat Heru Setianto****

*Bank Indonesia, Provinsi Sulawesi Selatan, Indonesia. E-mail: firman_h@bi.go.id

**Corresponding author. Department of Islamic Economics, Faculty of Economics and Business, Universitas Airlangga, Surabaya, Indonesia. E-mail: raditya-s@feb.unair.ac.id

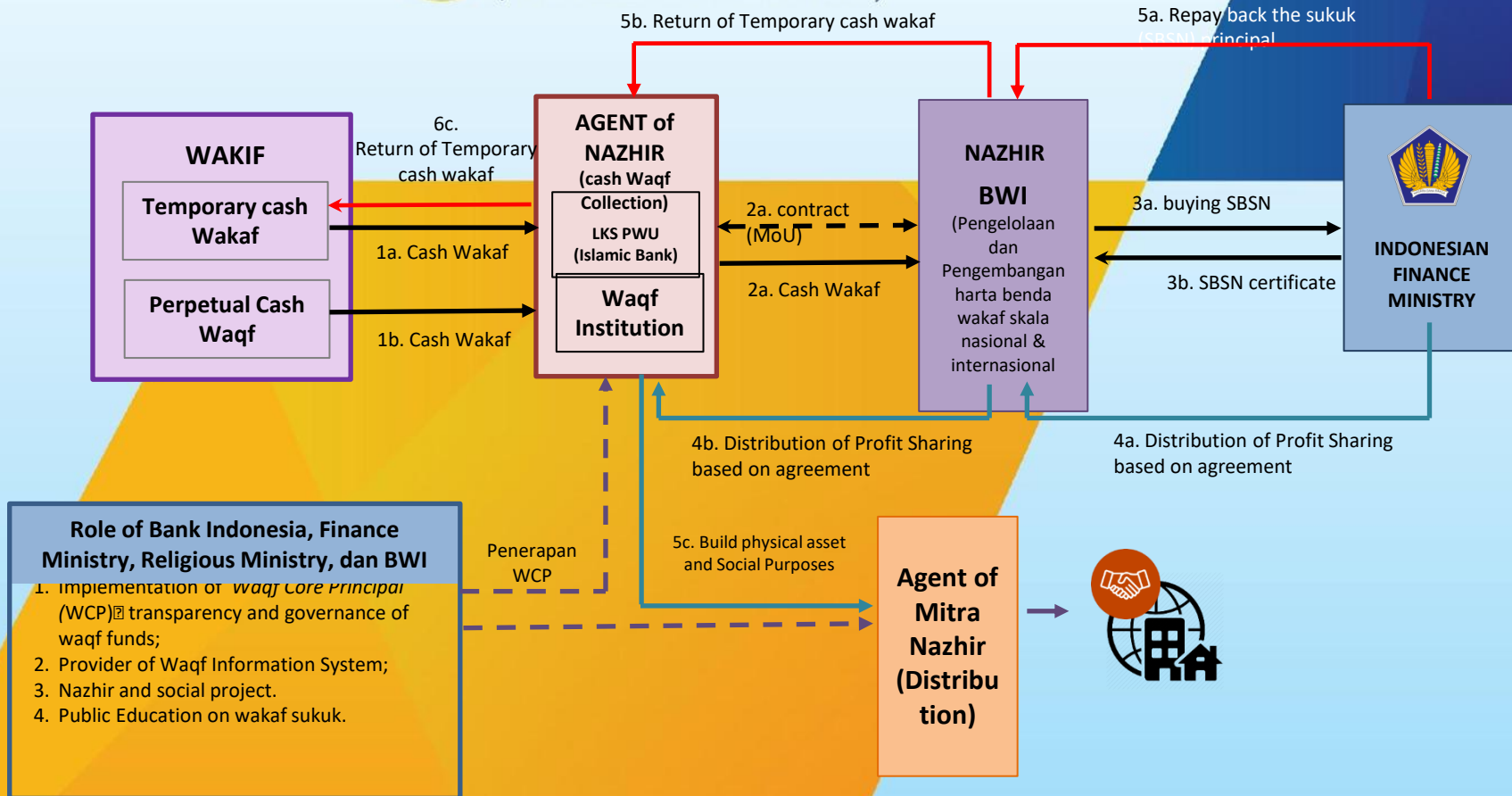
***Department of Islamic Economics, Postgraduate, Universitas Islam Negeri Sultan Syarif Kasim, Pekanbaru, Indonesia. E-mail: masrizal@uin-suska.ac.id

****Department of Management, Faculty of Economics and Business, Universitas Airlangga, Surabaya, Indonesia. E-mail: rahmat.heru@feb.unair.ac.id

ABSTRACT

This study constructs an index reflecting Central Bank Digital Currency (CBDC) news coverage and evaluates its impact on bank stability. The CBDC Attention Index (CBDCAI) is formulated based on more than 523 Reuters Digital News Report articles from 2019 to 2023. Employing the Sy  Palatino Lin... 10 AI tools  approach with data from 92 banks across ASEAN-5 nations, and implementing quantile regression for robustness checks, the findings demonstrate a significant relationship between the CBDCAI and bank stability, alongside variables such as bank size and capitalization. These results offer valuable guidance for central banks, especially within the ASEAN-5 region, as they advance CBDC initiatives.

8. Cash Waqf Linked Sukuk



Token and share within regulator

THE BIG PICTURE

Is Indonesia's Shariah Governance Ready for Rapid Financial Innovation?



RAPID INNOVATION

Financial innovation is accelerating, driven by technology, changing consumer behaviour, and a more digital economy.



Digital banking & embedded finance



Buy Now Pay Later (BNPL)



Tokenization



Smart contract



Digital asset



SEQUENTIAL RESPONSE

In many cases, the sequence remains:



Innovation

New technology and business models emerge



Market Adoption

Rapid uptake by industry and consumers



Regulation

Regulatory framework develops and adjusts



Shariah Interpretation / Fatwa

Shariah guidance follows, often with a time lag



THE CHALLENGE



Speed gap

Digital innovation can move faster than product-specific Shariah guidance.



Uncertain classification

New products often blur existing Shariah categories (e.g., asset, service, hybrid).



Need for clarity

Greater clarity is required to ensure certainty for industry, consumers, and regulators.



Balancing objectives

Ensuring innovation supports *maqasid al-shariah* while managing emerging risks.



THE WAY FORWARD

A future-ready framework for Shariah governance should be:



Principle-based

Grounded in Shariah principles and *maqasid al-shariah*.



Technology-neutral

Flexible to adapt to various innovations.



Risk-based

Proportionate to the risk profile of each innovation.

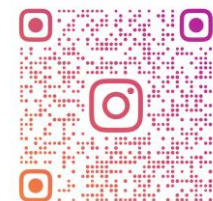


Sandbox-integrated

Aligning regulatory and Shariah review through a joint/synchronized approach.

Innovative Finance for a More Inclusive Indonesia





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Date of Birth: Surabaya, 13 April 1976

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Professorship

Ministry of Research, Technology, and Higher
Education Republic of Indonesia No.
2511/M/KP/2019. Date Signed March 5, 2019

Education

1. Ph.D., Economics - 2010

International Islamic University Malaysia.

- Supervisor: Prof.Dr. Mohd Azmi Omar, Prof.Dr.Mansor Ibrahim, Prof.Dr. Ahamed Kameel Mydin Meera
- Examiner : Prof.Dr.Jarita Duasa, Prof.Dr.Abdul Ghafar Ismail (UKM)

2. M.A., Economics - 2002

Georgia State University, USA.

- Supervisor : Prof.Dr James Alm

3. Bachelor of Economics on Financial Management - '99

Universitas Airlangga, Indonesia.

- Supervisor : Dr.Andry Irwanto

Visiting Scholar

**Islamic Research and Training Institute
Islamic Development Bank (IRTI-IDB),
Jeddah, Saudi Arabia (Dec 2014-Jan 2015)**

Assessor

Assessor for Waqf Nazhir by Professional
Certificate Institution of National Waqf Board, 2022

National Newspaper

9 in Jawa Pos 42 in Republika

Expertise

- Waqf Management
- Islamic Microfinance
- Halal Industry
- Islamic Capital Market
- Islamic Economics
- Islamic Banking

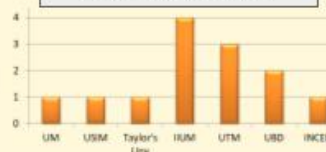
Books

1. Wakaf: Pengaturan dan Tata Kelola yang Efektif (July 2016). (Co-author with Dadang Muljawan and Diana Yumanita), Bank Indonesia
2. Fundamental of Islamic Money and Capital Market (2013). (Co-author with Azmi Omar and Muhamad Abduh), John Wiley and Sons

Scopus Journal Reviewer & Advisory Board

1. IMEFM, Scopus Q2.
2. JECD, Scopus Q3.
3. Jurnal Ekonomi Malaysia, Scopus Q3
4. Singapore Economic Review, Scopus Q3.
5. BMEB-BI, Scopus Q2

PHD Examiner

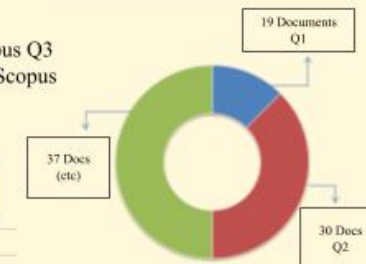


Seminar and Conference in Islamic Economic

66 Conferences – 15 Countries

- Oxford University, UK (2005)
- La Trobe University, Australia (2009)
- Cambridge University, UK (2012)
- Harvard University, USA (2014)
- IRTI-IDB, Jeddah, Saudi Arabia (2014)
- Kyoto University, Japan (2018)
- Istanbul Sabahatin Zaim University, Turkey (2020)
- International Islamic University Malaysia (2020)
- Qatar (2023)
- Cornell University (2024)

Scopus Publication



86 Scopus Publications
H-Index : 19



CURRICULUM VITAE

Awards

- National Waqf figure from Academics Element at the BWI Awards, 2022.
- The Distinguished Scholar in Islamic Social Finance. Bank Indonesia, 2020.
- Best Paper 1st International Conference and CFP Waqf and Economic Growth. Universitas Trisakti and BWI, 2016
- 1st Winner Forum Riset Perbankan Syariah Paper Competition, Bank Indonesia, 2011.



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