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Kementerian PPN/ Bappenas

KNOWLEDGE SECTOR INITIATIVE

Australian Government

Pathways to Tackle Regional Disparities Across the Archipelago

Sub-Theme :
Unlocking the Potential of the Digital Economy for Regional Development

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Potential for Blockchain Technology for Improving Village Information Systems

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What is Blockchain?

Bird, Aeroplane, Superman?

Nope! Blockchain is a shared, distributed, digital **ledger**

Our world is dependent upon keeping record - of actions, of money, of interactions. These records began in what we commonly refer to as **ledgers**.

Ancient Sumeria

Evolution of the "ledger"

Rise of professional ledger keepers

Rapidly growing wealth gap

2008 Global Financial Crisis

Satoshi Nakamoto

Not Just Cryptocurrency

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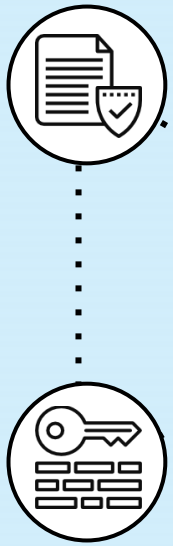
Blockchain is a distributed **database**, inherently resistant to attacks and fraud.

Value Proposition

Reduces cost	• Removes the costs of intermediaries • Reduces processing, re-work, and manual errors
Increases revenue	• Creates new products and services • Captures value lost in transit
Reduces risk	• No single point of failure • No unauthorized alterations • Resistant to collusion
Increases speed and transparency	• Verifies provenance • Allows T+0 settlement • Preserves complete audit trail

Key Components



Immutable

A write-only database that preserves an immutable record of all network transactions.

Decentralized

A peer-to-peer platform distributing the same replica of data.

Cryptographically Secure

Public/private key to secure identity, allowing only verifiable transactions.

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Why decentralization matters

Through its distributed nature, blockchain enables better, trustless coordination.

Inclusive

More creation and collaboration occurs in a global network that each and every one can join.

Robust

A power outage, natural disaster, or a malfunction cannot bring it down, nor can an attack from malicious actors.

Uncensorable

No government or corporation controls your data. Your privacy remains your own.

Egalitarian

The network is that of the masses. No economic, political, geographic discrimination, no monopoly.

Read More Buterin, V. (2017, February 6). The Meaning of Decentralization.

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Potential for Improving VIS

Current Issues

- Managed in a fragmented fashion. The main stakeholders/ authorities are the Local Dukcapil, village govt.. Hamlet, neighborhood units (RT)/RW) and the health service units (not in all districts) have certain role. Individual citizen don't have private access, so individual data error often happens.
- Village office and Camat often function as intermediaries rather than facilitators.
- Village govt staff and dukcapil staff can temper with data, or entering different data due to typo or mistakes. Each have some share authority, but database is not interlinked

- With blockchain, data can be decentralized among stakeholders, create more trust and more timely updates. The P2P may comprise dukcapil, village govt down to hamlet/RT/RW, camat, service units, the citizen themselves.
- Streamlining of Health Data
- With blockchain, financial data can be decentralized to VFM stakeholders such as district DPKAD, DPMD, village head and staffs, camat, and village implementation team, to create more trust and more accountability.

Selecting the right Technology:

Innovative Methodologies – Sprint Vs Log frame

Adaptive Approaches – Developmental Evaluation and

Complexity aware techniques

Careful partnerships – Avoid Snake oil sales folks!

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