BLOCKCHAIN IN THE FINANCIAL SECTOR
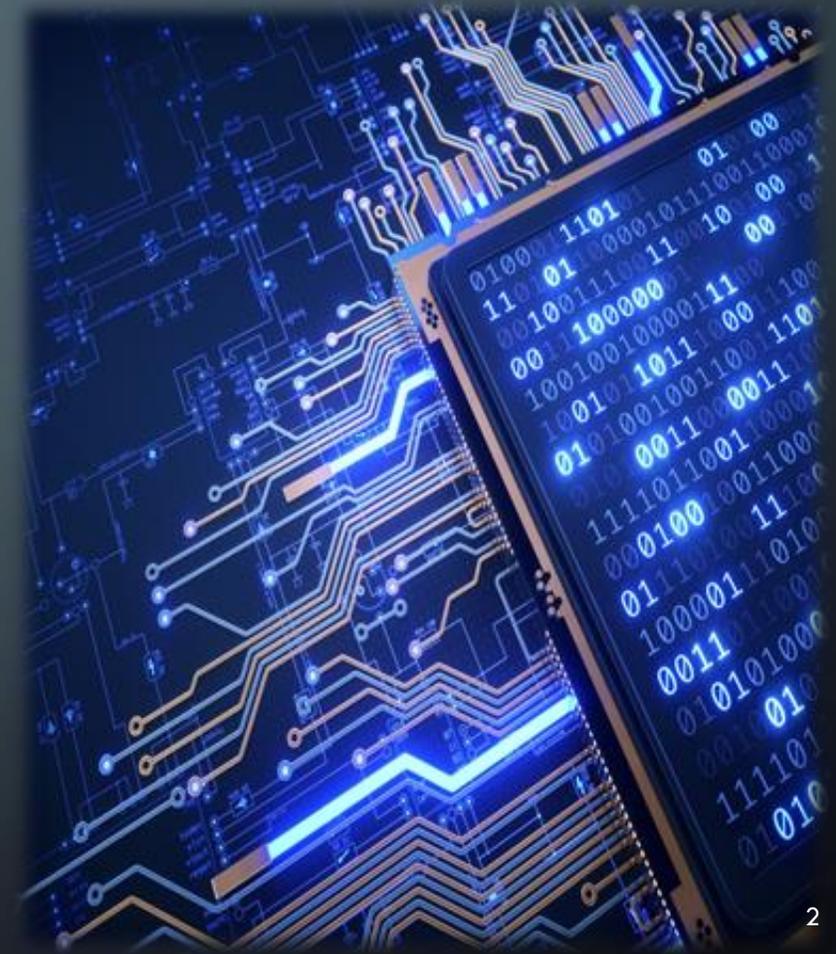
SAS AFTERNOON FORUM – 6 MAY 2022

DAVID MANEVAL, HEAD OF ANALYTICS FOR ASIA AT LOCKTON

*JOHN LIAN, RETROCESSION BROKER AT GALLAGHER RE*

AGENDA

1. **DeFi and its characteristics**

2. **Benefits and challenges**

3. **Blockchain applications**

   a. Finance

   b. Insurance

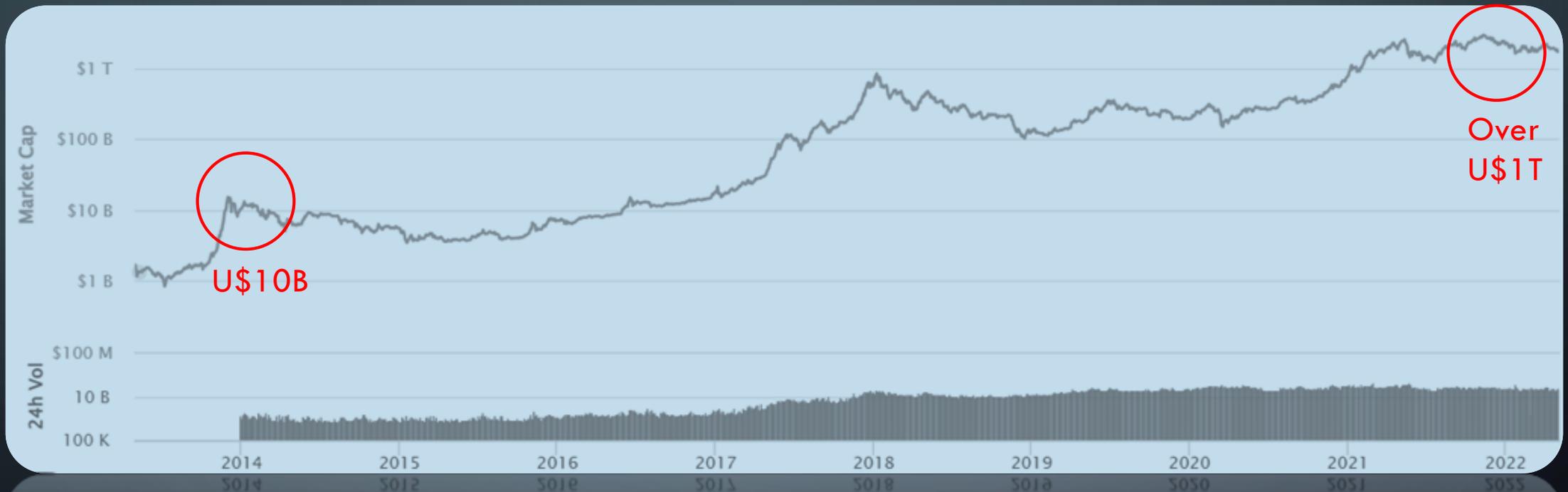4. **Risk and opportunities**

5. **What the future holds**

BLOCKCHAIN INTRODUCTION

- A **decentralized ledger** invented in 1991
  - The ledger can be added to but the ledger's history is immutable
  - The ledger is typically visible to anyone

- **Software**

- **Solves**: centralized control, limited access, inefficiency, lack of interoperability, opacity
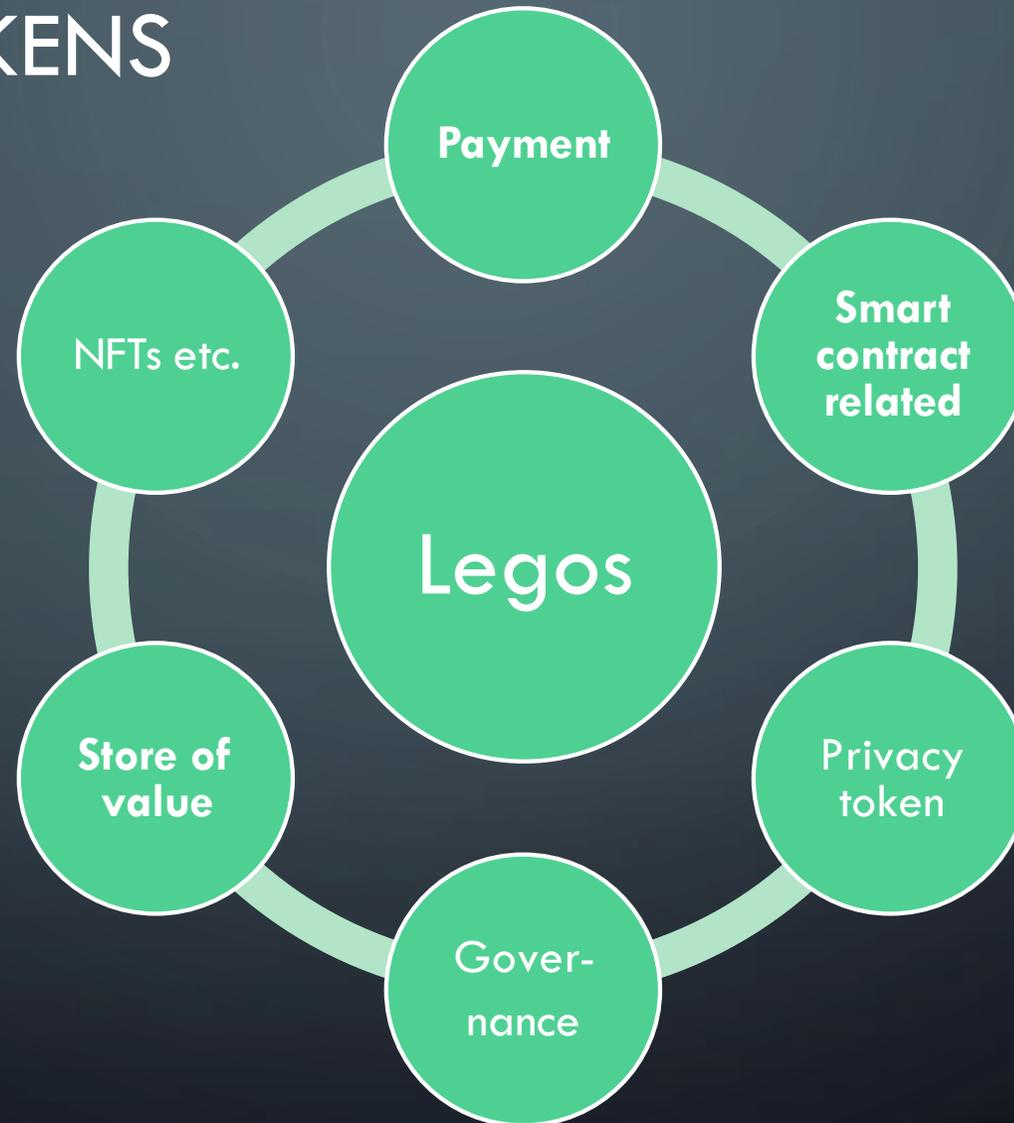

https://academy.binance.com/en/articles/what-are-meme-coins
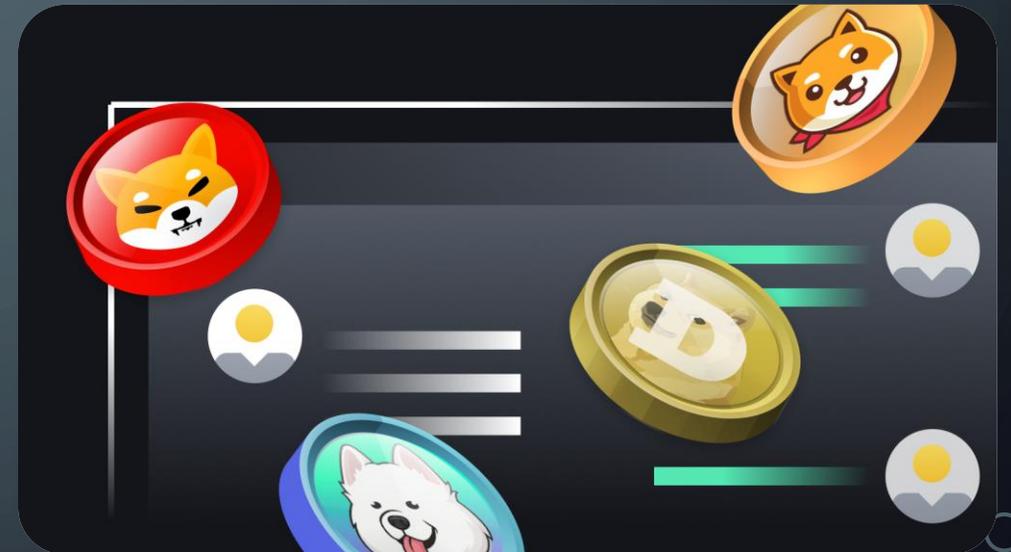
GROWING MARKET CAPITALIZATION (USD)

TYPES OF TOKENS

Payment

Smart contract related

Privacy token

Gover-nance

Store of value

NFTs etc.

Legos

DEFI AND ITS CHARACTERISTICS

- **Decentralized finance (DeFi).** A financial infrastructure that does not rely on a centralized institution such as a bank. Transactions can be conducted on a peer-to-peer basis

- DeFi aims to **replace traditional financial** using blockchain and smart contracts

- **dApp.** A decentralized application that allows direct interactions between peers. Anyone can use them and no central organization controls them.

- Volatility and **Stablecoins**

SMART CONTRACTS

- App and dApp

- **Public.** The ability for anyone to see the code

   and all transactions sent to a smart contract

- Reusable and cross-border by design (geo-location)

- **Atomic**

- Ability to escrow or custody funds directly in a smart contract
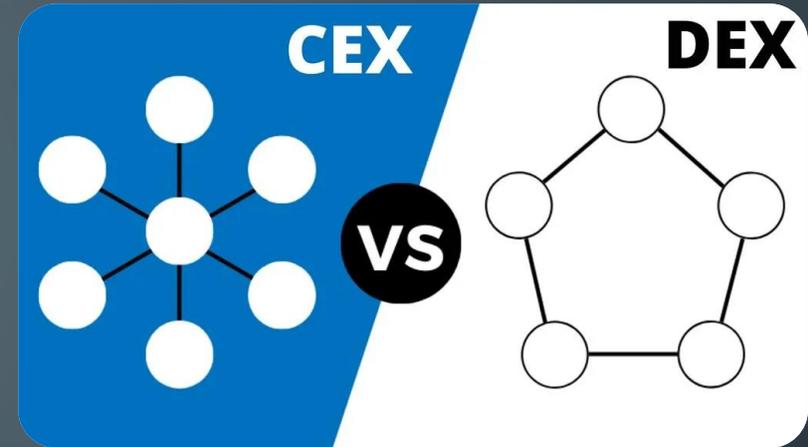
BENEFITS

- **Double spend.** perfect copies can be made of a digital asset, so it can be spent multiple times. The Satoshi Nakamoto white paper in 2008 solved this problem using a combination of Blockchain technology and proof of work

- Micro-finance, 1.7 billion people **unbanked**

- **Flat fee.** It costs no more to transact $10 or 1 million
  - **3%** on every credit card transactions (oligopoly)
  - 2 days to settle a stock (official ownership transfer)

- **Deposit interest rate** (bank overheads and profits distribution)
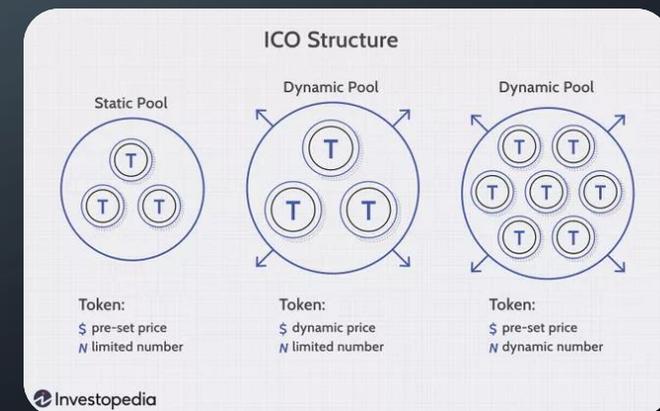
CHALLENGES

- **Barrier to entry**

- **Smart Contracts** are not smart

- **Oracle.** Integrate information external to the Blockchain. Parties must agree on the source of the information. (Chainlink)

- **Keepers**

- Synthetic stocks (mirrorprotocol.is)

- **Regulation**: security vs commodity. Lacks clarity

https://www.leewayhertz.com/ethereum-smart-contract-tutorial/

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BLOCKCHAIN APPLICATIONS - FINANCE

- **ERC-20**. Ethereum Request for Comments (ERC) related to the interface for fungible tokens. Fungible tokens are identical in utility and functionality (e.g. stablecoins)

- **ERC-721**. Ethereum Request for Comments (ERC) related to the interface for Non-Fungible Tokens (NFT). NFTs are unique and are often used for collectibles or specific assets, such as a loan, a property or a lottery ticket

- **defipulse.com**

- **Collateralized loans (credit risk)**

- Banking: payments, trade, save, borrow, lend

- **Financing: ICO**

ICO Structure

Static Pool / Dynamic Pool / Dynamic Pool

Token:
$ pre-set price
N limited number

Token:
$ dynamic price
N limited number

Token:
$ pre-set price
N dynamic number

Investopedia

https://www.investopedia.com/terms/i/initial-coin-offering-ico.asp

BLOCKCHAIN APPLICATIONS – FINANCE (CONTINUED)

- **Tokenization** (Pax Gold). **Fractional ownership**

- A **Flash Loan** is used to facilitate arbitrage or instant transactions

- In a single transaction, the loan is created, all buying and selling activities are completed, and the loan is re-paid in full

- No credit history, no collateral required. Zero counterparty risk

INNOVATION

BLOCKCHAIN APPLICATIONS – INSURANCE

- Insurance policies could be written as coded, decentralized smart contracts

- Blockchain smart contracts are immutable and could utilize oracles in approving insurance claims

- If fraud or disagreement ensues, the smart contract dissolves and the premiums will be handled by code set out at initiation

- Mutual trust between parties
  - data transparency
  - contractual deviation results in restitution to the harmed party
- Health and life insurance – more comprehensive, secure, and interoperable repository of health information

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https://quantstamp.com/blog/the-status-of-insurance-in-the-blockchain-industry

BLOCKCHAIN APPLICATIONS – INSURANCE (CONTINUED)

- Traditional insurance on a blockchain
  - Codify business rules | automate claims processing | permanent audit trail

- Blockchain Insurance Industry Initiative (B3i Services Ag):
  - Working capital
  - Optimization of foreign exchange efficiencies
  - General operational efficiencies and risk reduction
  - Data integrity improvements

https://b3i.tech/
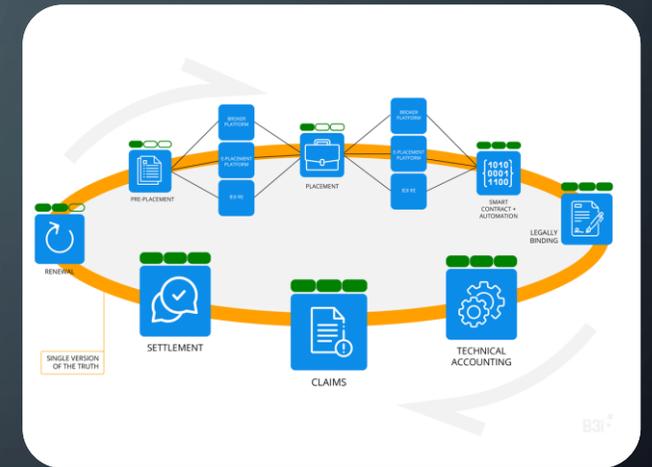
- B3i Cat XoL cover a majority of Cat XoL contracts, to negotiate, manage contract workflows:

Advanced Property CAT XoL contract structuring | Unlimited number of layers and nested sections | Flexible definition of Scope of Coverage, with inclusions and exclusions | Basic portfolio management functionality | Lead/quoting market placement | Negotiation orchestrations | Contract negotiation version comparison | Follow market placement | Endorsements | Contract audit trail and lifecycle | Placement status overview | Clause library | Contract export in PDF | Enhanced messaging with bound context | Document sharing

BLOCKCHAIN APPLICATIONS – CRYPTO INSURANCE

- DeFi Insurance Use-Cases:

    Crypto Wallet Insurance | Collateral Protection for Crypto backed loans | Smart Contract Cover | Cryptocurrency Insurance | Mutuals

- Challenges: market size | hacks & breeches | volatility | data

- Increasing focus on moving customer interactions to digital channels means that stronger cyber security discipline is more important than ever, from being targets of cyber crime to customer data being used in identity fraud

- Unprecedented growth in the DeFi sector

- Interest in DeFi continues to grow from individual and institutional investors, with needs for sustainable insurance coverages and DeFi insurance mechanisms
    - Several projects in the crypto space have emerged to fill in the supply gaps

Nexus ✕ Mutual

bridge.V2

iTrust FINANCE

RISK AND OPPORTUNITIES

Cost of **reinsurance** = f (price adequacy, frictional costs ⬇)

Swiss Re - InsurTech Conference - 25 September 2017

- Risks
  - Smart Contracts depend on code to execute, while traditional contracts utilize legal systems
  - Forgetting your wallet address
  - Sending tokens between incompatible blockchains
  - Hackers could gain access to computers and private keys which in turn gives access to wallet addresses
  - Theft of physical keys
  - 51% attack (decentralized blockchains)
  - Solar Storms (/other electronic failures)

- Opportunities
  - Event triggered smart contracts
  - Increased back-end efficiency
  - Disintermediation
  - Better risk selection
  - New types of financial instruments
  - Better reach to the public (ie. mobilephones)
  - Develop resilient hardware / electronic storage solutions

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WHAT THE FUTURE HOLDS

- "Once the technology is fully matured and integrated with complementary technologies such as AI and IOT, autonomous agents acting on behalf of a driver could negotiate insurance rates directly with multiple car insurance companies using data from sensors."

- "In the financial services industry, blockchain opens up opportunities for trade finance, securities settlement efficiency and more secure identity systems. But the real transformation will occur with the creation of new digital assets and the decentralization of finance."

  The CIO's Guide to Blockchain (gartner.com)

- With the gathering of more complex sets of data, A.I. could integrate with ways underwriters justify insurability or bankers execute trades, and hopefully one day learn our jobs, freeing humans from the leash of repetitive work to pursue creative ones
  - What if parts of us become too machine dependent, and potentially something goes terribly wrong with our machines?

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"Everything that can be automated will be automated"
- Robert Cannon

THANK YOU!

Q&A
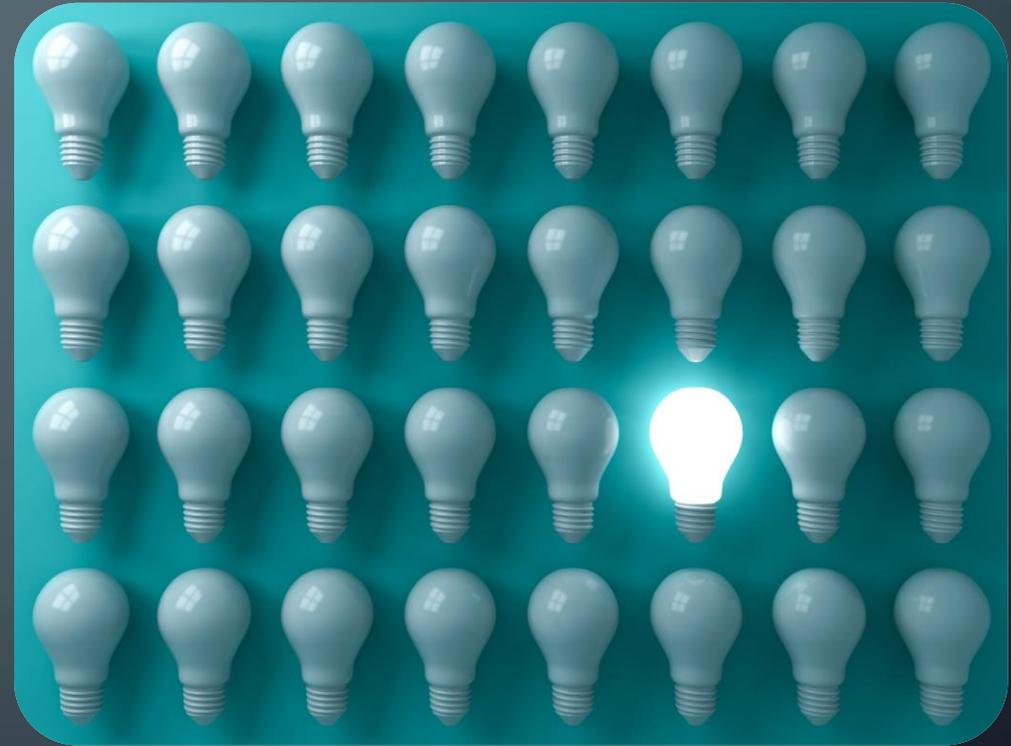
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