

Master of Information System Mangement

Alumni Gathering MMSI 2022

Digital Bank

Trends and Regulations in Indonesia

Jakarta, 19 March 2022



Wirianto Widjaja, S.Kom, M.Kom



Master of Information System Mangement



Area of Expertise

Strategic IT Consulting, Enterprise Architecture, Data Management/Data Governance, Project Management, Financial Service Business Process and Data Model, Information System Analysis and Design, Customized Business Application Development, Data Warehouse and Business Intelligence, Big Data Analytics, and Artificial Intelligence

Presenter's Brief Profile

Career Summary, Area of Expertise, Education Background, and Professional Achievements & Recognitions

Wirianto Widjaja, S.Kom, M.Kom

Chief Technology Officer of PT. Asaba Computer Centre | CEO of PT. Finpoint Solusi Indonesia (FINPOINT) | CEO of PT .Indonesia Digital Security (IDAS) | Commissioner of PT. Kode Inovasi Teknologi (CODR)

Education Background

- Manajemen Sistem Informasi, Binus University Online Learning (2019)
- Magister Manajemen Sistem Informasi, Binus Graduate Program (2022)

Achievement & Recognition

- Lead and successfully deliver more than 50 large IT projects, with more than 70 team members, within 24 years of his career
- Speaker of Indonesia 2019 Big Data Conference, presenting "Big Data Technology Support for Active-Active Data Center: Design Consideration and Technology Options"
- Speaker of OneX virtual expo, presenting "Neobank, the Future of Banking Industry"
- Two times BINUS Award of Excellence: 2019 Information System Best Graduates and 2022 Binus Graduate Program Best Graduates for 4.0 GPA and on-time graduation



Background

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Digital Transformation

Background: The Digital Transformation

The dawn of the digital era has risen and brightly shine

Digital transformation is the changes that digital technology causes or influences in all aspects of human life. Madakam et al., 2019





Digital Revolution

Digital Revolution: Shifting from Mechanical Analogue to Digital Electronics



Digitization

Generation of data out of business and life events

Digitalization

Business Process Reengineering based on Digital Technology to disseminate data in quick and secured ways. This way, organization could get the job done in faster, efficient and the best way possible

Opportunities & Challenges

Digital Transformation

Potential

Benefits

(Stolterman & Fors, 2004)

Enhanced data collection that provides strategic insight

Higher productivity and efficiency through better resource management and collaboration improvement

Shorter product life cycles that increase business agility through faster GTM, review, and swift strategy adjustment based on feedbacks

Mass customization towards better customer experience

Increasing safety and environmental protection

Strategically enable precision and timely decisionmaking support

- Enable autonomous transaction
- Breaking physical and time boundaries
- Create competitive advantage and improve the overall bottom-line

Considerations & Risks

Organizational Changes Information & Cyber security risk exposure Significant amount of capital investment Implementation failure risks High degree or absolute dependencies over technology

Unlock Potential Mitigate the risks

Digital Bank Historical Background

2007-2008 The Financial Crisis

The 2007-2009 financial crisis began with cheap credit and lax lending standards that fueled a housing bubble.

Caused by predatory lending practice and excessive risk taking by global financial institution on subprime mortgage loan

Housing bubble burst, teaser rate, and subsequent high interest rate resulted into payment default

At its peak, delinquency rate is 13,33% and causing Lehman Brother declared its bankruptcy and triggered banking crisis

BASEL III Framework

The Basel Committee on Banking Supervision (BCBS) issued Basel III Framework, with a comprehensive set of reform measures in banking prudential regulation to strengthen the regulation, supervision and risk management of the banking sector.

I THOUGHT WE WERE JUST BUYING A HOUSE!"

Induce chronic distrust to global Banking system

The rise of Neobank

The banking sector has historically been a monopoly. The crisis disrupt this situation

Regulator open for greater competition

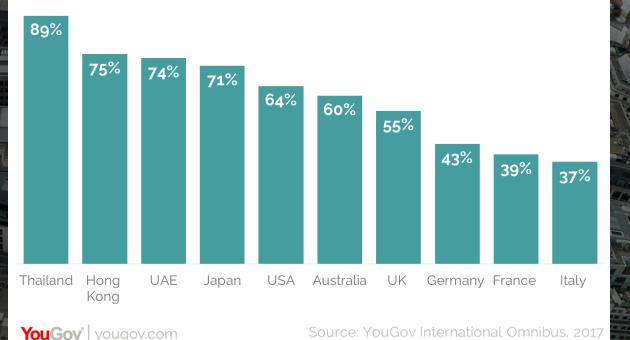
A new breed of digital-only called as **Neobanks** are starting to break this hold

Better service, transparent, secured, cheaper/low-cost, and its agility drive unprecedented growth and success of Neobank Neobank capitalize on the negative perception towards long-established financial institutions.

(YouGov, 2017)

Europeans trust banks least

Thinking generally about banks, to what extent, if at all, do you trust banks?



About Neobank

The Definition of Digital Bank

A neobank (also known as an online bank, internet-only bank, virtual bank or **digital bank**) is a type of direct bank that operates exclusively online without traditional physical branch networks

BBVA Research

Neobanks: creating a digital bank from scratch among the FinTech firms, some aspire to become banks and to provide a purely digital alternative to traditional institutions. (BBVA Research, 2017) WORLD FINANCE

A new kind of digital-only financial institution known as a 'neobank' has emerged to capitalise on the **distrust** felt towards the industry's incumbents (Ballard, 2018)



Justin Pritchard

 Neobanks don't replace traditional banks.
 Some allow to link your traditional bank accounts to the neobank to enjoy the best of both worlds.

(Pritchard, 2021

<u>it Nloohank</u> The D OTORITAS virt New Ages Banks Neoba from s firms. banks

landscape

digital

institutions.

Strategically important and essentials in the middle of digital transformation stream

"Bank Digital adalah bank yang menyediakan dan menjalankan kegiatan usaha yang utamanya melalui saluran elektronik dengan kantor fisik yang terbatas atau tanpa kantor fisik selain kantor pusat".

OJK, 2021

Its acceleration were driven by the pandemic situation and the rise of Neobank in the global

(BBVA Research, 2017)

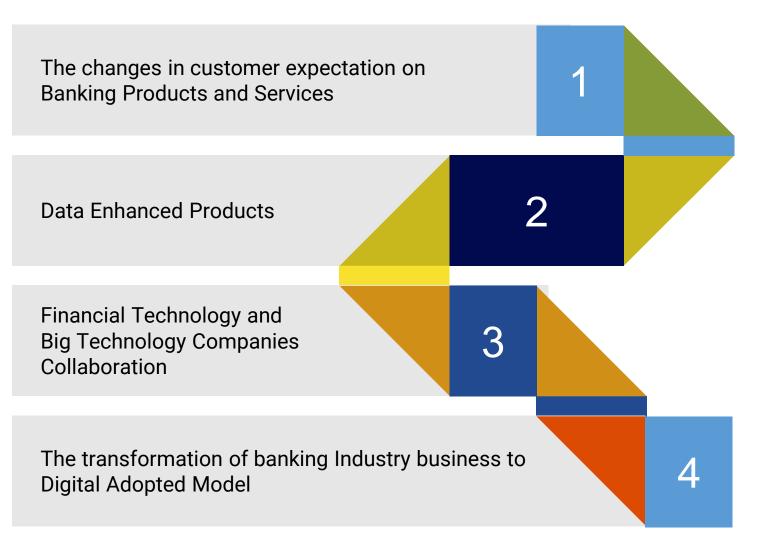
(Pritchard, 202

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Impact of Digital Transformation in Banking Industry

Industry 4.0 Transformation Agenda



Trends of Digital Bank Neobanks

Neobank as the new direction of modern financial technologies development: A case study of Russia

Vodafone

(Komarov & Martyukova, 2020)

Digitalization McKinsey: "by 2036, about 50% of economic processes will undergo automation and digitalization"

Enhance engagement

The Fidor bank set the interest rate on its loans depending on the number of Likes on the client's page. Every 2K new "likes" reduced the loan interest rate by 0.1%

Unprecedented growth

Arthur Jackso

REVO JERCOR

Georgia Lewis

Future Bank account

"According to the report for 2018, the Tinkoff bank sold over 2.7 million credit cards, which ensured the growth of the loan portfolio by more than 50%"

Bottom-line impact

\$18.00

(~)

\$10.00

Canal Canad Canal Canad Canal Canad

Nielsen: In 2018, O. Tinkova's TCS Group reached record levels in the history of the company net profit amounted to 27.1 billion rubles, exceeds the indicators of 2017 by 43%

Extremely focused on customer experience and journey

Neobanks focus on optimizing customers' experience by providing superior customer support and convenient solutions

Streamlined process, convenient use on-the-go

Customers can open an account in less than 10 minutes and the user interface of the apps makes navigating quick and simple.

Anywhere, anytime is a new way of busy lives neobanks tap into. Thus, they are all pro the utmost comfort of a customer and offer 24×7 access to banking services.

Data powered operations Neobanks use data to shape their business model, with 3rd party affiliation. The built-in data analytics capabilities helps Neobanks to put clients' needs and expectations at the center stage with user-centric insights defining their business mode

Features and money

management tool

Neobanks aim to give customers much more functionality in managing their money. Features include giving realtime spending notifications, offering detailed insights into spending habits and the ability to sort money into different 'pots', such as saving for a holiday

Agility and low-cost structure

The absence of branches and the focus on technology mean that neobanks can respond to changes more quickly and implement new features. It also reduces their operating costs significantly, enabling them to offer lower fees for customers.

Open technical architecture

Using open, instead of proprietary technology. By nature, the service provided as API-Native stack with Open Banking oriented design

Digital Bank Key Characteristics

Differences to Traditional Bank

(Temelkov, 2020)

Aspect

Service access hour Speed of service

Channel of service Maintenance cost

Scope of service

Status of operator

Traditional

Limited

Depends of employee's qualification and experience

Flexible but limited

High, often rendered as service charge

Limited, depends on branch type

Performed by employee of the bank

Digital Bank

Round-a-clock

Immediate

Flexible with more options

Low, most services are free of charge

Unlimited, beyond geographical location boundaries

Performed by bank's client

Differences to Traditional Bank

(Temelkov, 2020)

Aspect

Learning and promotion nature

Prominent cost structure

Business Orientation

Traditional

Relatively require more time and cost

Staff and physical assets maintenance

Product and Service

Digital Bank

Can be quickly carried out by push notification, SMS, or email

Servers and software package

Customer Needs

Bank Digital di Indonesia

Existing

















Ongoing Transformation









Onboarding

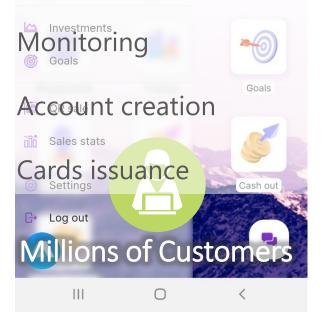
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Document upload and en Knytuments

Payments



Create account anytime, hassle free

en Service

LINITAL BRANCH

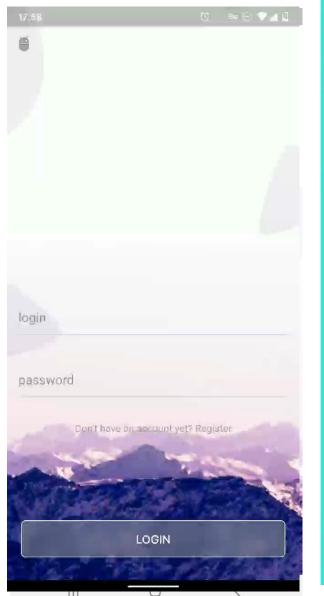
Self Service

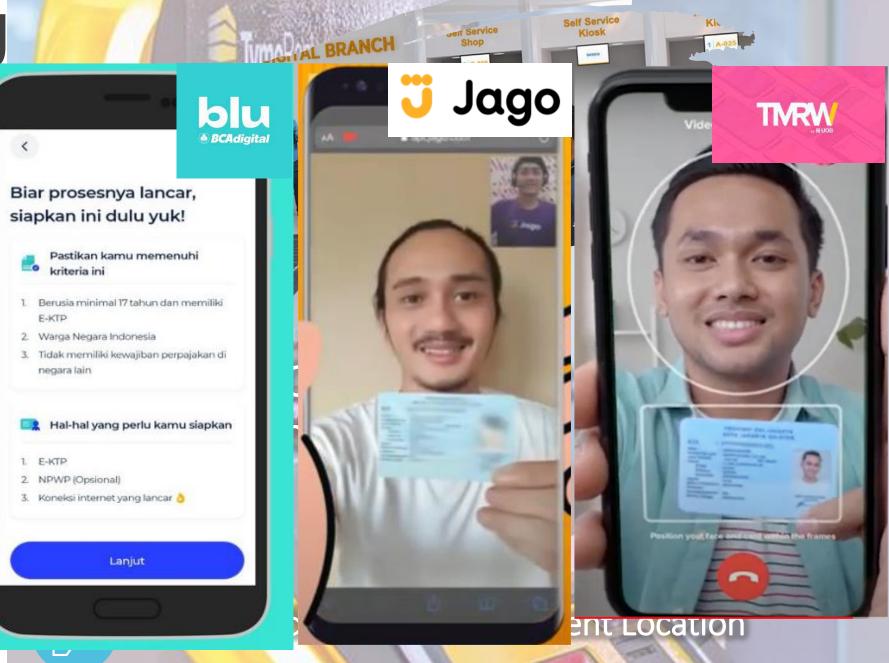
Kiosk



Automated Kiosks in Convenient Location

Onboarding





Transactions

Online payment, transfer and remittance

Any-time, anywhere

Ability to use a global account and card without challenges QR payment

Customer and merchant apps Static and dynamic QR support

Payment integration

Teller and cash desk extension

Wallet

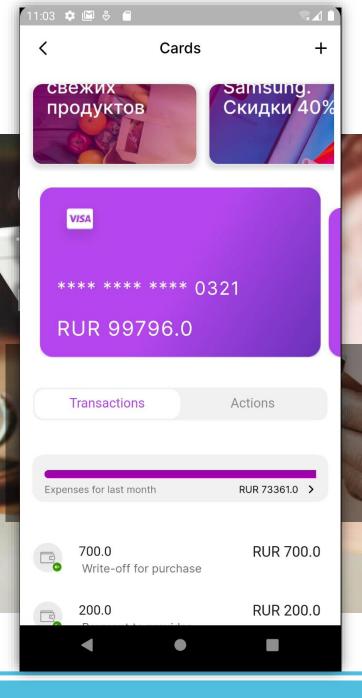
Cash in and cash out Payments and transfers Cards linking

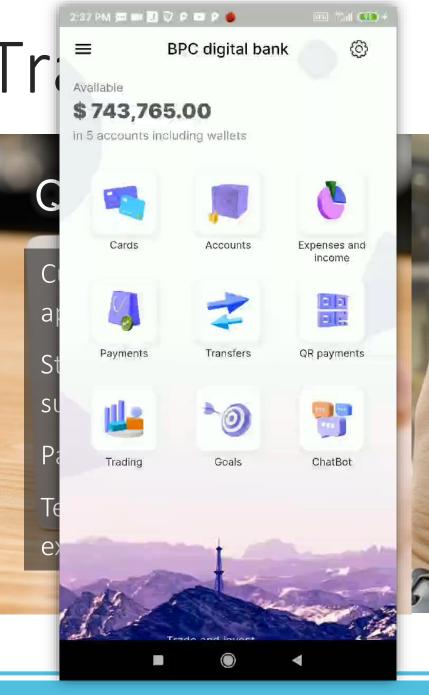
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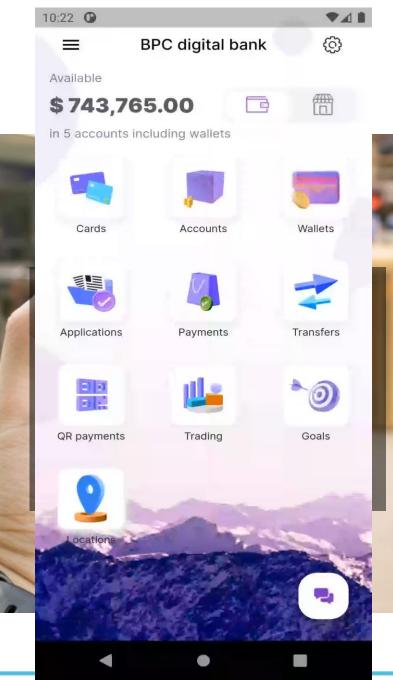
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Payment gateway integration











Investment Management

Provide key information and execute decision for Investment portfolio management

Trading (Buy/Sell) Buy stocks, currencies/crypto, etc.

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Portfolio Performance

Compositions, current market value, capital gains, etc.





Investment Management

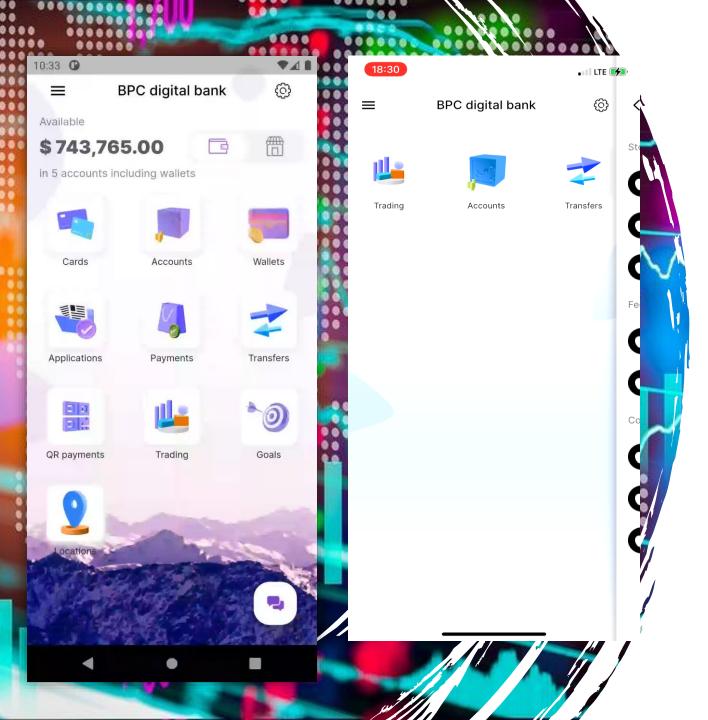
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Investment Management

Provide key information and execute decision for Investment portfolio management

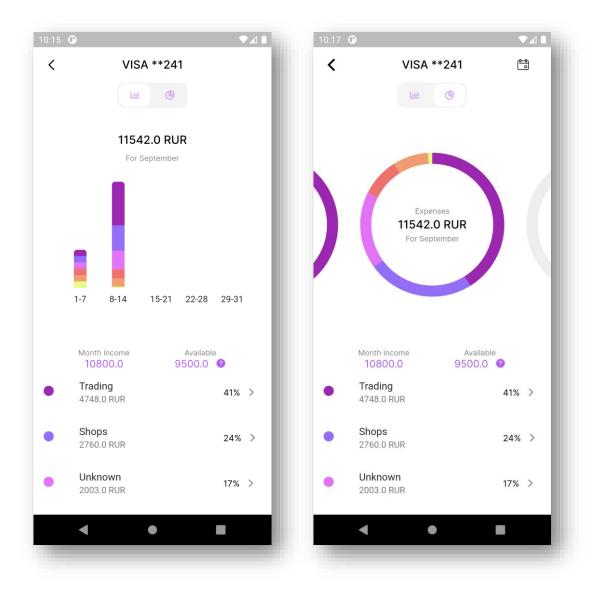
Trading (Buy/Sell) Buy stocks, currencies/crypto, etc.

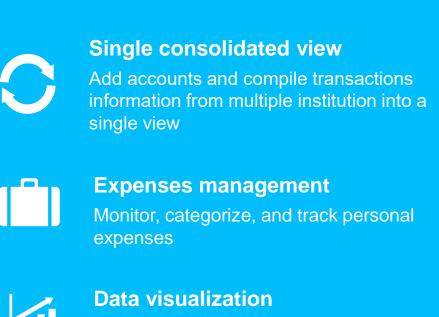
Portfolio Performance

Compositions, current market value, capital gains, etc.

Common Interface FIX protocol and custom REST/API

Manage the entire money life-cycle effectively





Using different accounts

- Checking and current •
- Saving and deposit •
- Loan, credit and • installment

Own Accounts External Accounts Linking, verification, direct debits Instant opening **Overdraft** accounts • Immediate use for purchase

Single consolidated view



Expenses management

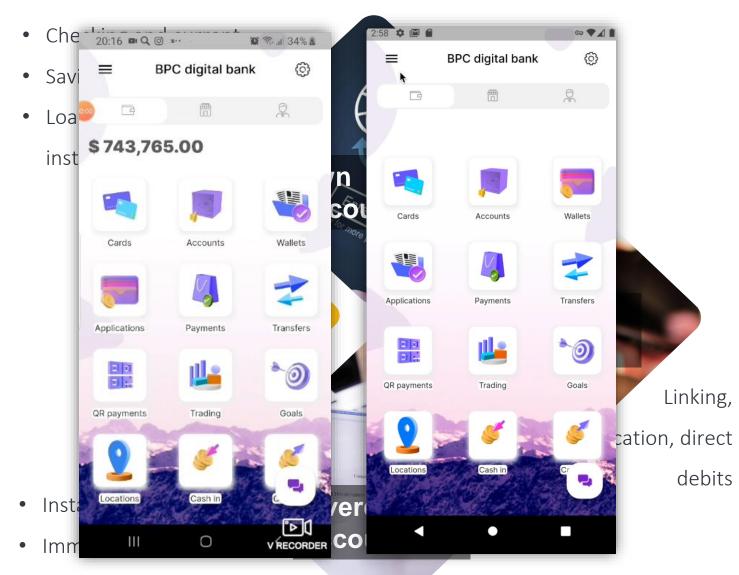
Monitor, categorize, and track personal expenses



Data visualization

Using different accounts

purchase



Single consolidated view

Add accounts and compile transactions information from multiple institution into a single view



Expenses management

Monitor, categorize, and track personal expenses



Data visualization

Oversees and control the money spending



Expenses and income breakdown



Expenses limit In app limits and alerts



Intuitive UI Graphics and Charts



Saving goals Gauge and dashboard



Change tracking Expense overview by period



Al Advisory User defined



Categorize your transaction User defined



Single consolidated view

Add accounts and compile transactions information from multiple institution into a single view



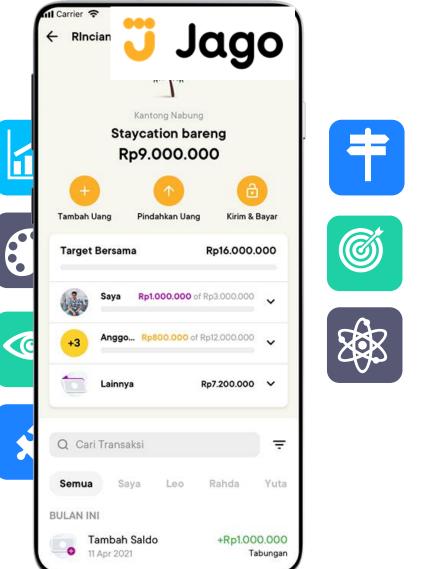
Expenses management

Monitor, categorize, and track personal expenses



Data visualization

Oversees and control the money spending



Expenses limit In app limits and alerts

Saving goals Gauge and dashboard

Al Advisory User defined



Single consolidated view

Add accounts and compile transactions information from multiple institution into a single view



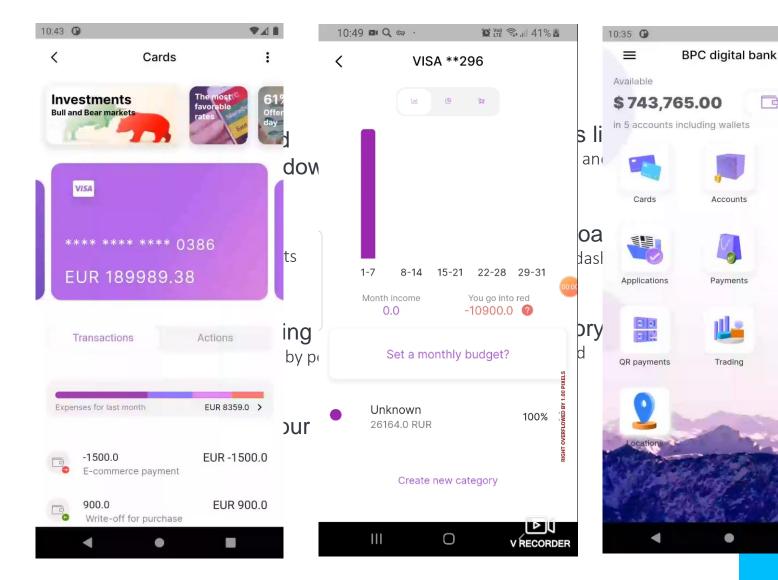
Expenses management

Monitor, categorize, and track personal expenses



Data visualization

Oversees and control the money spending



Single consolidated view

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Wallets

Transfers

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Goals

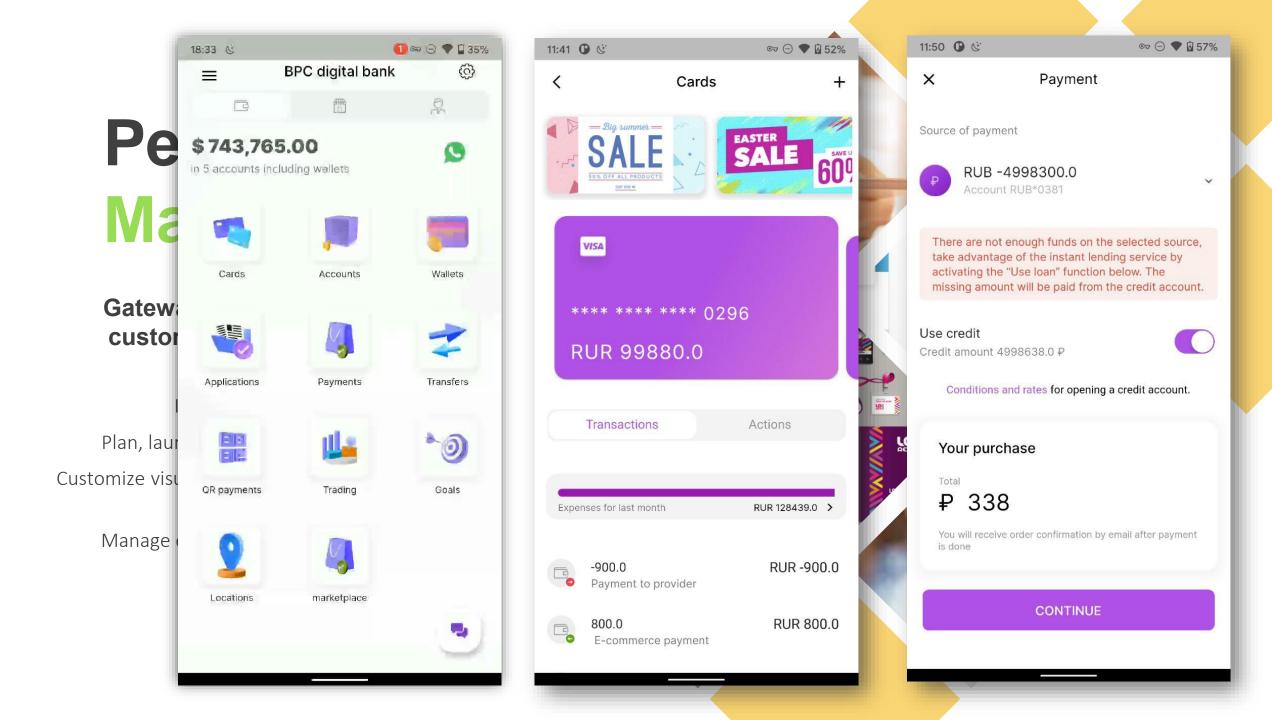
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Add accounts and compile transactions information from multiple institution into a single view

Expenses management

Monitor, categorize, and track personal

Data visualization



Super App Conveniency for customer

Super-app is a type of the application (mobile or web) that allows for easy extensibility by third parties like in WeChat app that enables connecting 3rd parties directly to the app. a single portal to a wide range of virtual products and services Partner content: Marketplaces, Internet shops, Fintechs, Education, Games and kids content Does not require re-publishing

Using vast wealth of data

To deliver better service to customer

Full control and recording of customer inputs

Disintermediating transactions

Tap into the opportunity or generate demand from a larger business ecosystem Re-sell and cross-sell capability Super App

Super-app is a type of the application (mobile or web) that allows for easy extensibility by third parties like in WeChat app that enables connecting 3rd parties directly to the app.

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To deliver be

Full control

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Cards

Applications

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BPC digital bank

Accounts



Wing shop

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Get A Wing Account In 3 Steps!

- 1. Sign up with Facebook or fill up the form.
- 2. Enter the verification code sent via SMS.
- 3. Create your Wing account PIN and you will get your Wing account number via a SMS.



Or fill up the form

Pavel		
Malyshev		
Date of Birth *	Male	
0891683737		
pavel@bpc.com		

Disint Tap into the ecosystem Re-sell and c

QR payments

Location

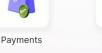
marketplace

Trading

-0

Goals

Transfers







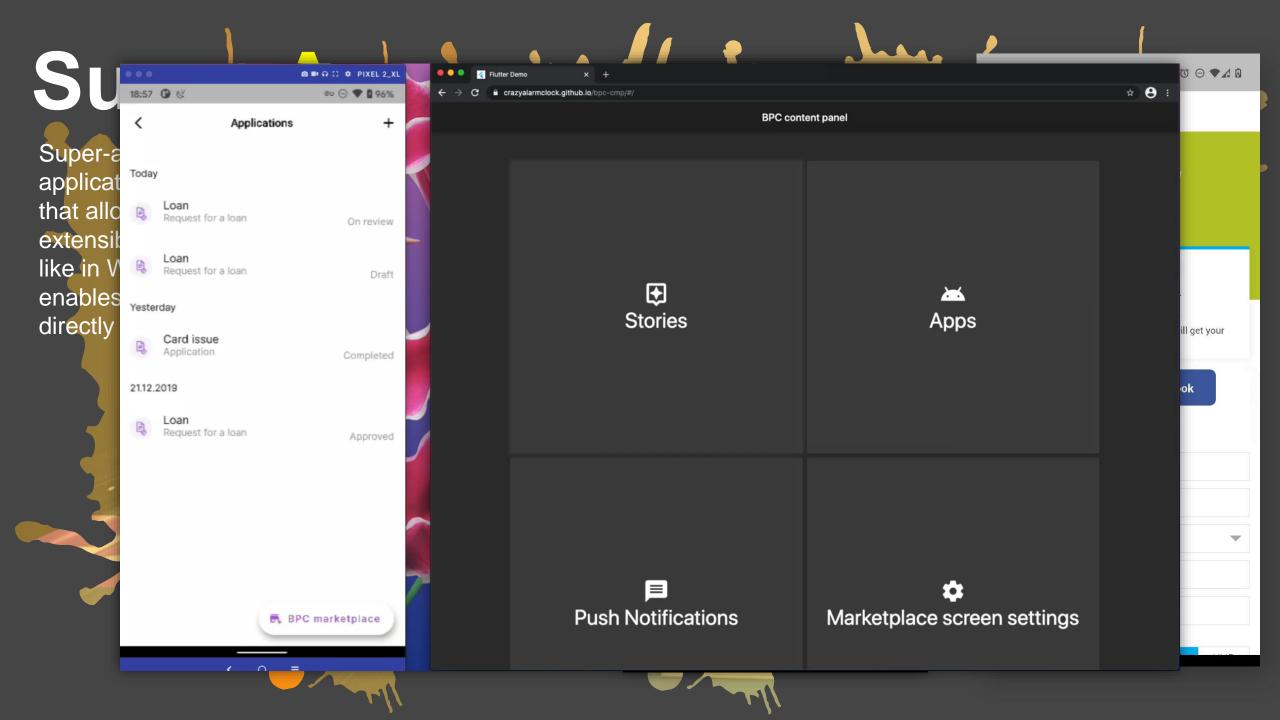


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BPC digital bank

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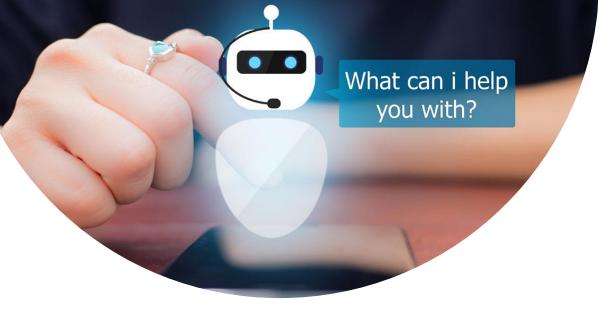


Configurable STT and TTS support Siri, Google Assistant, Alan (new) Step-by-step guidance for transactions Action/payment template triggers Media embedding HITL (human-in-the-loop)

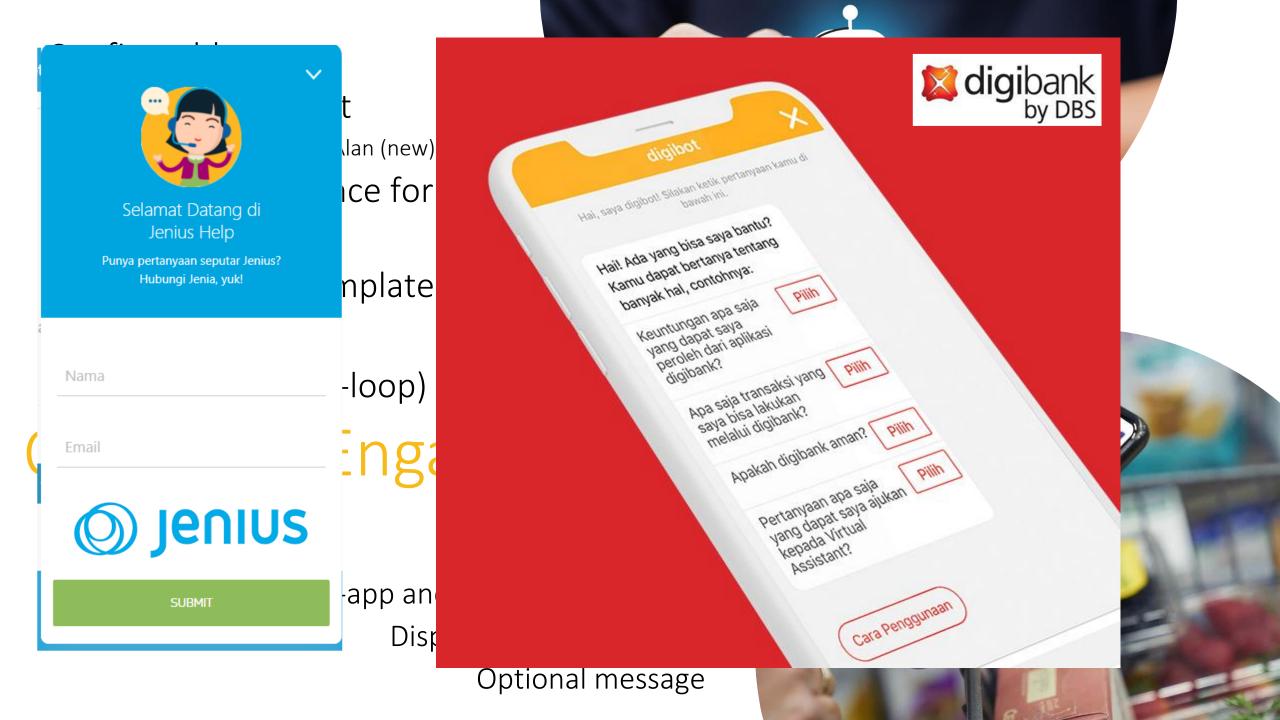
Customer Engagement

Disputes

In-app and application request Dispute reason selection Optional message







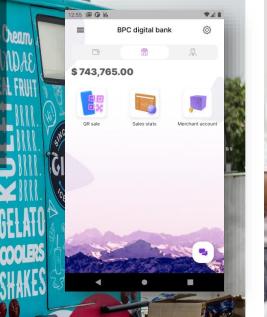
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Merchants Teller and cash desk extension QR Sell and refunds

Transaction reports



Multi Role Enablement

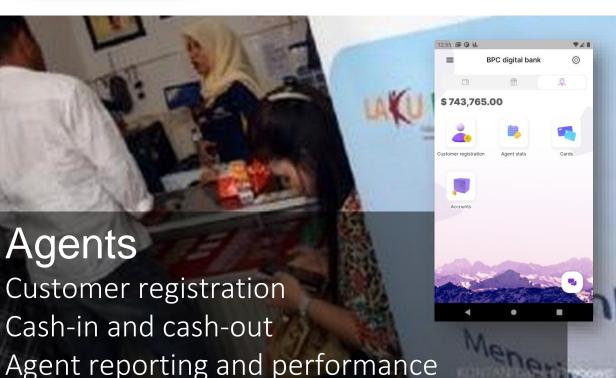


Agents

Customer registration

Cash-in and cash-out





Technology Consideration

Platform Agnostic

Cross-platform code for Android/iOS, web, and desktop Accommodate variety of use cases and user preferences

Design Driven Development

Functional metadata driven, low-code approach

UI and business logic libraries

Flexible and Adaptive Infrastructure Technology

Microservice architecture for scalability

Clouds ready by preparing containerready to enable elasticity



Full server-side control

Add, remove, and edit app centrally to allow rapid deployment

API native and Open Banking Oriented

Implementing "Banking as a Service"

Allow future integration and extensibility

Preparing for large ecosystem integration

Other Considerations

System Architecture

Investment and Effort

- Infrastructure
- Software
 Provisioning
- Installation and Implementation
- Rollout

AISP, PISP, TPP Implementation Implementation of open banking standards (SNAP)

\$3.589

Omni channel layers Efficient system development and consistent experience

API Management Integration with others application solution

Comprehensive and Modular Architecture Remote banking, Integration, back-end, marketplace, fraud control, AI



Zero Bank Branches



Card Issuances through Smart Kiosks



Online POS and Merchant Acquiring



ACS for Online Payment

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e-Commerce gateway

Fraud Management

Access to **40,000** ATMs

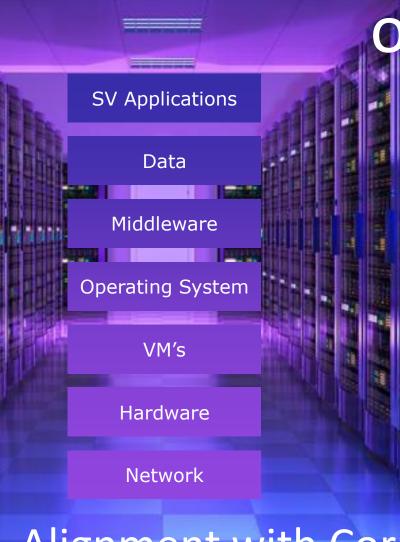
750 Service Kiosks **10,000** Cash Points **95,000** Transactions per day

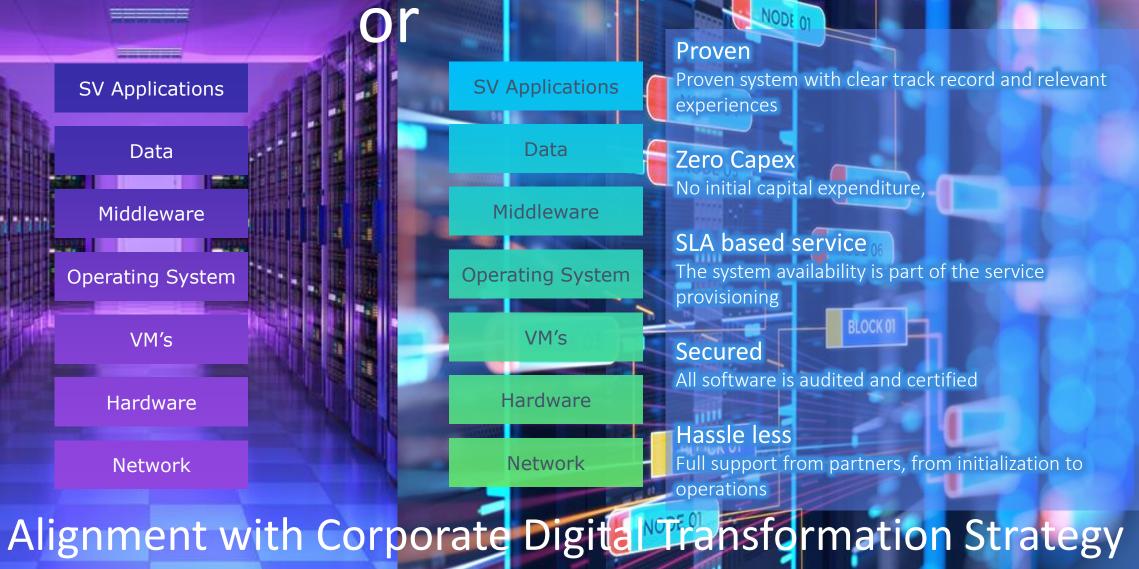
Unique Low-cost Innovations to their clients

50K customers In 2 Months **1M+ customers** In 12 Months

Solution as a Service (SaaS) On Premise

Own and managed by Customers





Related Regulations Digital Bank in Indonesia

- Ve -

Digital Bank Related Regulations

Current and Future Anticipation







PERATURAN OTORITAS JASA KEUANGAN REPUBLIK INDONESIA NOMOR 12 /POJK.03/2021 TENTANG BANK UMUM

PERATURAN OTORITAS JASA KEUANGAN NOMOR 12 /POJK.03/2018 TENTANG PENYELENGGARAAN LAYANAN PERBANKAN DIGITAL OLEH BANK UMUM PERATURAN BANK INDONESIA NOMOR 23/6/PBI/2021 TENTANG PENYEDIA JASA PEMBAYARAN RANCANGAN UNDANG-UNDANG REPUBLIK INDONESIA NOMOR ... TAHUN ... TENTANG PELINDUNGAN DATA PRIBADI

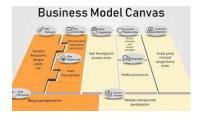
Future Regulations

PERATURAN OTORITAS JASA KEUANGAN REPUBLIK INDONESIA Nomor 12 /pojk.03/2021 tentang bank umum



Legal standing for Digital Bank in Indonesia

Digital Banking as a business strategy Institutional Regulatory Requirement of Digital Bank on Article 24



New Business Model



BOD members with Solid IT Competency

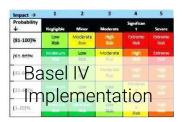


Min. of Capital 10 Trillion IDR



Personal Data Protection

Data Governance CDO, and DPO



Risk Management



Contribution to Financial Ecosystem Development and Financial Inclusion

PERATURAN OTORITAS JASA KEUANGAN REPUBLIK INDONESIA Nomor 12 /pojk.03/2018 penyelenggaraan layanan perbankan digital oleh bank umum



Readiness checklist for Digital Banking Service Provisioning

All Digital Bank Service is subject for approval

Any issuance should meet certain regulatory requirement



Organization Structure and Overseeing Management



Risk Assessment and Analysis Result



Policies, System, Procedures and Governances



ICT Infrastructure Readiness



1 (one) year business plan



Cyber and Information Security related Risk Management



PERATURAN BANK INDONESIA

NOMOR 23/6/PBI/2021 TENTANG PENYEDIA JASA PEMBAYARAN

Institutional Regulatory Requirement for Providing Payment Services in Digital Bank Context



Institutional

Could be Bank or Non-Bank

E-wallet/e-money, payment gateway, remittances

3 Categories



Capital and Financial

15 Billion for category 1, 5 Billion for category 2, and 1 billion for category 3



Risk Management

Policies, system and procedure for risk management

3rd party collaboration



ICT Capability

Security control

Fraud Management System

IS Audit

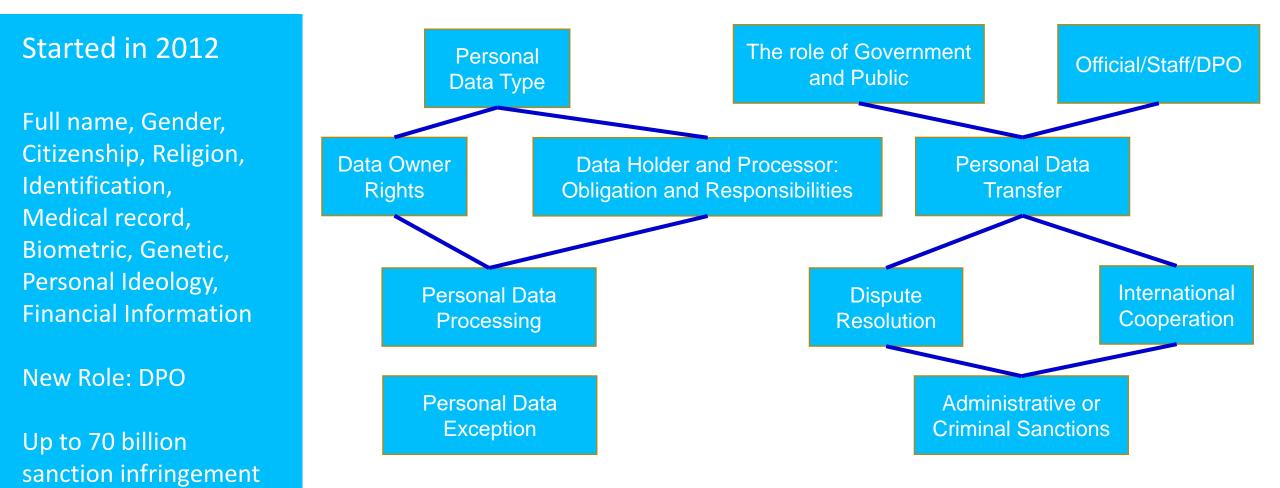
ICT Infrastructure and Capabilities

Digital Bank should meet the regulatory requirement for Payment related Services



RANCANGAN UNDANG-UNDANG REPUBLIK INDONESIA TENTANG PELINDUNGAN DATA PRIBADI

Regulatory Requirement to allocate resources for personal data protection



About us

PT. Finpoint Solusi Indonesia

FINPOINT

ASABA Group of Companies

Reputable and Successful Business

Established in May 1974

A solid, respected, and reputable Indonesian company

Over 40 Years of Lasting & Continuous Strategic International Partnerships

Strong business units excel and leading in each establishment and market

Variety of business models: Manufacturing, Distribution, Franchise, and Consulting







Independent Subsidiary Companies

More than 70 Companies operating under the group as a profit center



Evolving and Transforming

Over 45 years of business establishment, coming from Industrial towards Digital Business





Digital Platform Provider

Digital Platform | Business Solution Service | IT Consulting | Training Services | IT Managed Service

Reputable IT Company

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Founded in 1990, as an IT Business unit of Asaba Group of Companies. Has served medium and large companies, focusing in the financial service industry, government, manufacturing & distribution and others market

Thrive in Digital Era

Solution as a Service (SaaS) Provider



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Stationary Store in Major Cities токо вики & STATIO PROMEXX

ROMEXX

promexx

Retail Office







ASABA COMPUTER CENTRE

Transformation Towards Digital era



FINPOINT

Financial Service Platform

PT Finpoint Solusi Indonesia

Digital Platform Provider

Digital Platform | Business Solution Service | IT Consulting | Training Services | IT Managed Service

Reputable IT Company

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Thrive in Digital Era

zestHUB

Solution as a Service (SaaS) Provider





elD.

Cyber Security Consulting PT Alpha Citra Siber Indonesia



A Trusted Digital Transformation Partner for Financial Services Business

We are providing a world class Digital Banking, CMS, Payment Switching, and Fraud Management solutions for Financial Service businesses, available as a Solution as a Service (SaaS) platform or a managed service

Our intention is to expedite digital transformation initiative and become an efficient and more competitive business with less risk and hassle free

International Partners





banking • payments • context

BPC Banking Technology

An international banking and payments technology firm with 230+ clients include leading financial institutions in more than 90+ countries and several of the world's largest banks. We provide long-term support and partnership for our customers, that's why we have global network of 19 offices, all with local language support.

Digital Bank

The Future of Banking Industry

Contact me:

Wirianto Widjaja wirianto@finpoint.id

Conclusions

Digital era promotes transformation and disruption in many aspects of life, social, and businesses, including in Financial Service Industries

A digital bank (also known as an neobank, online bank, internet-only bank, virtual bank or digital bank) is a type of direct bank that operates exclusively online without traditional physical branch networks.

Digital Bank don't replace traditional banks. Some allow to link your traditional bank accounts to the neobank to enjoy the best of both worlds.

Neobank/Digital Bank is one of the manifestation of digital transformation in FSI. It also serves as strategy and tools to launch cutting-edge business innovation, tap into new opportunities and in many cases promote unprecedented growth.

With correct strategy, Neobank can be adopted with manageable risk and less hassle.

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