Pemanfaatan Analisis Big Data pada Perbankan

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“Paradigma Baru dan Tren Teknologi Perbankan”
Shifting in Habit: Everything is Moving and Innovating Digitally

**Everything is Moving to Digital**
- Digital Platforms
- Financial Services
- Business Operations

**Ripen Digital Adoption**

**On-Demand & Integrated Solutions**

E-commerce remains to be Indonesia's main growth driver with 54% YoY. Covid-19 also unlocked an opportunity for HealthTech and EdTech platforms.

- Online Retail
- Food Delivery
- Health Tech
- Ed Tech

Consumers and SMEs have adopted Digital Financial Services more than before.

- Insurance
- Digital Lending
- Online Investment
- Digital Payment

Innovation to Cater Broad Range of Needs

- Remote Working
- Partnership
- M&A with Digital Platforms/Bank/Fintech

Banking Technology is Continuously Growing

Bank 1.0
Branch banking, negotiable instrument

Bank 2.0
Payment cards, Automated Teller Machine

Bank 3.0
Online Banking, Mobile Banking

Bank 4.0
Digital Wallets, Social Media Banking, AI-based Banking

“The world need banking services, but not necessarily banks.”
Bill Gates

Source: https://www.appknox.com/blog/infographic-evolution-of-banking
Today, a number of emerging customer, competitive & tech trends are setting the stage for a potential unbundling of the banks’ value chains.

- Open, API Standards
- Robotics and cognitive capabilities
- Scalable next-gen infrastructure (e.g. cloud)
- Increasing capital and compliance burdens
- Product-based competition
- Reduced risk appetite
- Emergence of non-traditional players
- Expansion of institutional capital to retail
- Heightened expectations
- Mobile connectivity
- Informed decisions
- Best-of-breed consumption

Source: Deloitte
Banking Technology Trends

- **Blockchain Platform** (CBDC & NFT)
- **Hyper Automation** (Operational, DevSecOps)
- **Low-Code/No-Code Platform**
- **Customer Insight Analytics**
- **Blockchain Technology** (AIOps & DataOps)
- **Open Banking** (Open API)
- **Industry Cloud Platforms**

Innovation Trigger ➔ Peak of Inflated Expectations ➔ Trough of Disillusionment ➔ Slope of Enlightenment ➔ Plateau

- Plateau will be reached: ○ ≤2 yrs. ● 2–5 yrs. ▲ 5–10 yrs. ▲ >10 yrs. × Obsolete before plateau
“Peran Data dan Analitik di Era Digital Banking”
Digital Initiatives Model in Financial Industry

Still apply with no change
- KYC
- Data Privacy
- Anti Money Laundering
- Risk Management
- Information Disclosure
- Investor Sustainability

Changed by FinTech
- Service embedded in scenario
- Risk control based on real transaction, manageable
- Acquire data move efficiently

- Big Data & AI – improve risk assessment & Customer engagement
- IoT & Cloud make risk control efficient
- Biometric facilitate KYC for rural
- Blockchain – trusted system

Regulatory Compliance

Customer Centric Product

Technology
Digital Value Roadmap to Enter Open Banking Era

**Digital bank as a product**
One strong offering for a specific customer segmentation with top digital bank capabilities.

**Digital bank as an experience**
A holistic and seamless customer experience around the core offering, expanded to other customer segmentations with tailorship.

**Digital bank as a platform**
More integrated services, financial products, touchpoint experiences or exclusive offerings. Enable third-party fintech to build products and services for bank customers.

**Digital bank as a service**
Building partnership and leveraging API-driven banking and payments solutions to enable partners to offer their customers the bank's products within their own channel. Create marketplace offerings for customers.

**Digital bank as an ecosystem**
A truly unbiased, open, personalized, and valuable ecosystem that covers all financial moments.

Source: Thoughtworks, Embrace the Ecosystem
Wellness

Customers are thinking about their needs, not necessarily your products

Banks should think about users, uses, and usage of banking products in the context of serving those motivations and aspirations and uncovering new value.

The post-channel experience is the new omni-channel

Banks should design customer experiences that are untethered from channel thinking. These experiences should be continuous and intuitively guided by the customer across all endpoints of their journey.

Be a customer intelligence-led business

A customer-intelligence-led operating model based on next-generation data architecture and advanced analytics capabilities is critical to help banks fulfil customer needs.

Source: Deloitte in Focus (2018)
Build Value More Than Just Digital Products

In building digital propositions, we need to create **added value** by understanding **what the consumers are expecting** from our products/services:

- **Social Impact**
  - Self Transcendence

- **Life-changing**
  - Motivation
    - Self Actualization
  - Hopes
    - Acceptance/Sense of Belonging

- **Emotional**
  - Reduce Anxiety
  - Well-designed (UI/UX)
  - Accessible
  - Trustworthy
  - Entertaining/Gamification
  - Nostalgia
  - Therapeutic Value

- **Functional**
  - Time-saving
  - Simplify
  - Mitigate/Reduce Risk
  - Organize
  - Integration
    - Avoid Hassles/Reduce Efforts
  - Inform
    - Quality
  - Broad Variety

**Hyper-personalization** will be a new area of focus as institutions race to meet rising consumer expectations. (EY, 2021)

Source: Element of Value, Bain & Company
Enabling Hyper-Personalization with Big Data & AI

Smart & Responsible Digital Banking Services

AI for hyper-personalization

Predictive behavior

Enable ecosystem collaboration to offer digital banking services as cross-sector experience

Big Data & AI Implementation in Corporations

- Customer Behavior: 43%
- Fraud Analysis: 41%
- Marketing Campaign Optimization: 360 Customer View: 35%
- Social CRM/Network Analysis: 30%
- Pricing Optimization: 30%
- Credit Scoring: 27%
- Loyalty & Promotion Analysis: 22%
- Brand Monitoring: 22%
- IT Infrastructure Analysis: 24%
- IoT Data Mining: 22%
- Equipment Monitoring: 16%
- Sentiment Analysis: 14%
- Logistic Optimization: 14%
- Influencer Analysis: 16%
- Next Offering: 14%
- Churn Mitigation: 5%
- Clickstream Analysis: 5%
Transforming Bank using Data
Streamlining Bank Capabilities to Create Values

**Big Data Analytics Benefits for Banking Industry**

- **Improved customer experience**
  Big data analytics can help banks gain a better understanding of their customers and their behavior, enabling them to provide personalized products and services that meet their needs.

- **Enhanced risk management**
  Big data analytics can help banks identify and mitigate risks in real-time, reducing the likelihood of fraud and improving regulatory compliance.

- **Increased operational efficiency**
  Big data analytics can help banks optimize their operations and processes, reducing costs and increasing productivity.

- **Better decision-making**
  Big data analytics can provide banks with actionable insights that can inform strategic decision-making, improving the accuracy and speed of decision-making.

- **New revenue opportunities**
  Big data analytics can help banks identify new revenue opportunities by analyzing customer behavior and identifying unmet needs.

- **Competitive advantage**
  Big data analytics can provide banks with a competitive advantage by enabling them to make better decisions, provide more personalized products and services, and operate more efficiently.

Source: McKinsey (2021)
Data Composability

Data as a Product Approach

Traditional Data Consumption approach

Build solutions by leveraging standardized data products and wiring technologies together following consumption archetype patterns.

Data Product Approach

Source: HBR July-Aug 2022
Studi Kasus Data Analitik di Perbankan

“Experience A Simple Life”
Ecosystem Collaboration AlloBank and CT Corp BUs
All in One, One for All

- 1400+ Financial Network
- 2000+ Offline Stores
- 2M+ SQM Retail Space
- 1M+ Daily Retail Visitors

Penetrating all business apps across the CT Corp ecosystem to offer unified MPC experience and integrated banking services

<table>
<thead>
<tr>
<th>MPC Points</th>
<th>e-Wallet</th>
<th>Bill Payment</th>
<th>Pay Later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allo Prime</td>
<td>QRIS Payment</td>
<td>Cash in-out</td>
<td>Cash Loan</td>
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Ecosystem First:
3 Key Building Blocks for Allo Bank’s Hybrid Banking Model

1. Ecosystem to drive acquisition, engagement & monetization
   Captive borrower base of ~200mn+ customers

2. “Phygital” infrastructure to provide optimal banking access in Tier 1, 2, & 3 cities

3. Most advanced technology & data capabilities

CT Corp Ecosystem

Strategic Partners of AlloBank & more

Allo Bank Application

Physical Channels

Ratings

App Store

Google Play

Wireless Carriers

AI & Machine learning

Big Data

Cloud & API

Composable Architecture

Ecosystem to drive acquisition, engagement & monetization

Captive borrower base of ~200mn+ customers

“Phygital” infrastructure to provide optimal banking access in Tier 1, 2, & 3 cities

Most advanced technology & data capabilities
Case Study: AlloBank

Data Management Framework

Governance
- Master Data Management
- Data Lineage
- Data Quality
- Data Security
- Metadata Management

Organization
- Center of Excellence
- Capabilities
- Vision
- Data-Driven

Business
- Business Metrics
- Data Visualization
- Customer Segmentation
- Customer Profile
- Product Analytics

Data
- Data Architecture
- Data Modeling
- Data Pipelines
- Data Transformation
- Data Lake
- Data Warehouse

Technical
- Technical Architecture
- Servers/VMs
- Storage
- Network
- Scalability/Extensibility
- Automation

Foundational Capabilities

Output-Outcome

Data-Driven Organization
- Democratizing Data
- Credit Scoring
- Customer 360
- Self-service Data
- Fraud Monitoring
- Decision Support System
- Dashboarding & Reporting
Case Study: AlloBank
Business Intelligence Dashboard & Self Service Analytics

Business Dashboard & Regular Reporting

Data For Business Dashboard
D4B Customer Transaction from Partnership, Customer Bank Activity Growth, Allo User Demography

Function-Specific Dashboard
Operation : Transaction Monitoring Dashboard, Analytics Transaction, Marketing : Social Media Sentiment Analysis, etc

Self-Service Analytics Dashboard

Ecosystem Partners Dashboard
Allo Acquisition, MVP Dashboard, Business Unit Tracking, Daily Business Unit Claim, etc

Operational Performance Dashboard & Reporting
Loan Daily Dashboard, Oris MPM Transaction, Outstanding Report, Credit Utility, etc

Self Service Analytics
Asset Quality, Open Account Monthly / Daily, Allo Buddies Acquiring, etc
Case Study: AlloBank
Micro Marketing Approach for CT Corp Ecosystem and Beyond
Terima Kasih