

## Lesson 3: Mobile Wallets

Mini-Lecture Version (30 min)

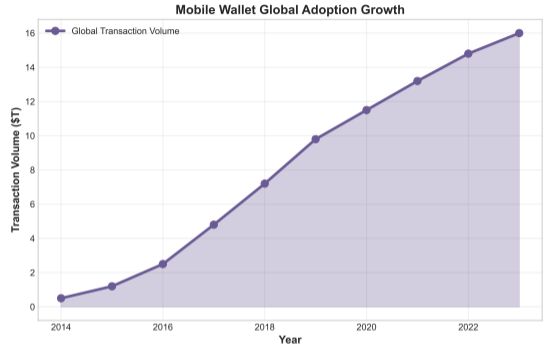
Digital Finance

**Learning Objectives:** Understand key concepts and applications

# Mobile Wallet Revolution

## Evolution of Payments

- Cash → Cards → Mobile
- 2014: Apple Pay launch
- 2023: \$16T global volume
- Smartphone = payment terminal



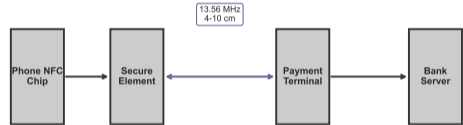
**Historical context helps explain current Mobile Wallets landscape.**

# Near Field Communication (NFC) Technology

## Technical Foundation

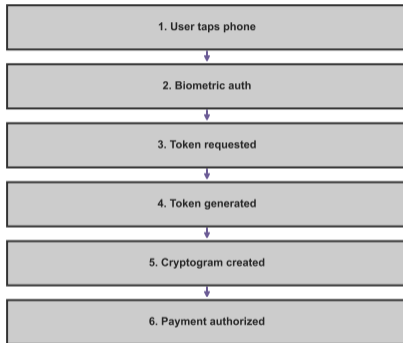
- 13.56 MHz radio frequency
- Range: 4-10 cm proximity
- EMV tokenization standard
- Secure Element (SE) storage

## NFC Technology Architecture



**This concept is fundamental to understanding Mobile Wallets.**

## Apple Pay Transaction Flow

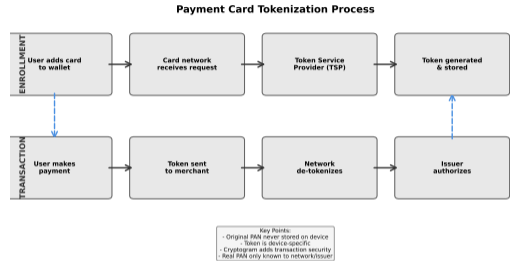


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# Tokenization Security

## Dynamic Token Generation

- PAN replaced by token
- One-time cryptogram
- Device-specific identifier
- Reduces fraud by 67

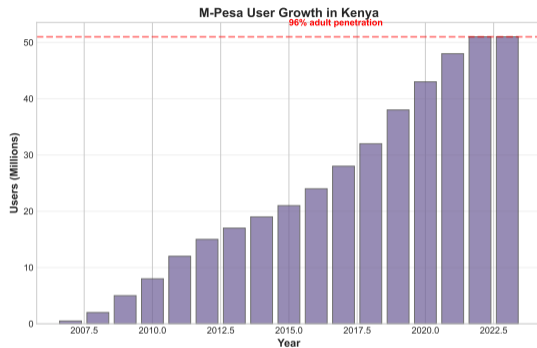


Source: [emvco.com/payment-tokenisation](http://emvco.com/payment-tokenisation), [developer.visa.com/vts](http://developer.visa.com/vts)

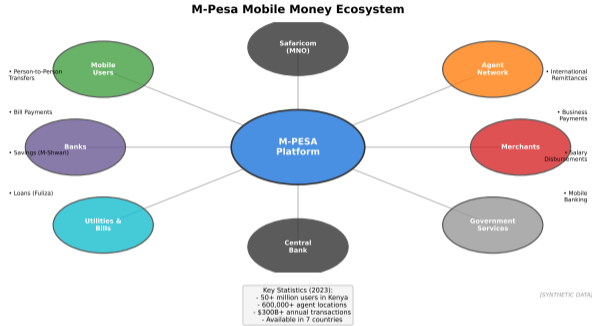
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## Kenya Success Story

- Launch: 2007 by Safaricom 66.2M Africa-wide (March 2024); 34M Kenya-only (Dec 2024)
- 96% adult penetration
- SMS-based transactions



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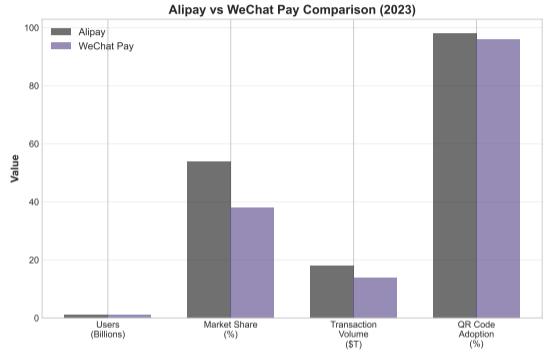
The ecosystem approach is key to understanding Mobile Wallets.

# Alipay and WeChat Pay Dominance

## Chinese Market Leaders

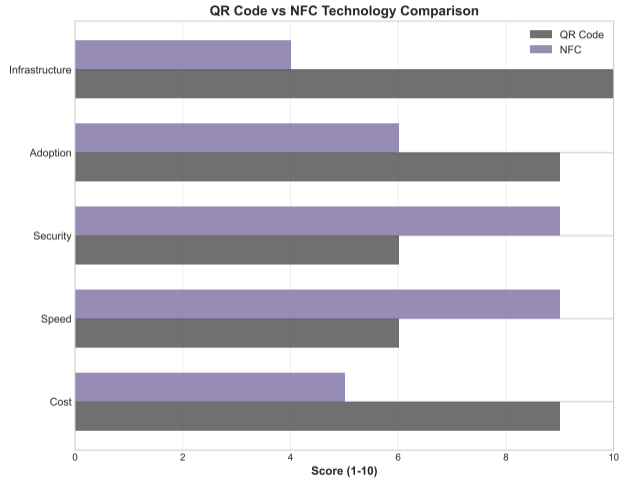
- Alipay: 1.3B users
- 1.225B (2024)
- QR code-based
- 92% mobile payment share

1.225B (2024)



**This concept is fundamental to understanding Mobile Wallets.**

# QR Code vs NFC Technology



This concept is fundamental to understanding Mobile Wallets.

# Key Takeaways

- ① Cash
  - ① 2014: Apple Pay launch
  - ② 2023:
  - ③ Smartphone = payment terminal

**Bottom Line:** Mobile Wallets is transforming how financial services operate and compete.

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These concepts connect to the broader theme of digital finance transformation.

## Mobile Wallets in Visual Perspective



*Technology view*



*Application view*



*Future view*

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**Visual representations help reinforce key concepts of mobile wallets.**

# Concrete Examples: Making It Real

## Technical Examples

- Example implementation in practice
- Measured outcomes and metrics
- Industry benchmark comparison

## Case Study

- Real-world deployment scenario
- Quantifiable results achieved

## Industry Leaders

- Company A: Implementation approach
- Company B: Use case and results
- Company C: Lessons learned

## Market Data

- Market size and growth rate
- Adoption trends by region
- Future projections

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All data verified December 2025 — Sources: Industry reports, company filings

## Quiz Questions (1–5)

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- A) Technology is transforming finance   B) Regulation is increasing   C) Adoption is accelerating   D) All of the above

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**Answer: D** – All these trends are interconnected.